DOE/OR/11-3037/V1&D0

RCRA Part B Permit Renewal Application

At the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio

Volume 1. Text

This document has received the appropriate reviews for release to the public. Date: 02/15/00

EQ MIDWEST

contributed to the preparation of this document and should not be considered an eligible contractor for its review.

DOE/OR/11-3037V1&D0

RCRA Part B Permit Renewal Application for the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio

Volume 1. Text

Part A Permit Application
Sections B through N

Date Issued — February 21, 2000

Prepared by
EQ Midwest, Inc.
Cincinnati, OH
under subcontract 23900-SC-SM002F

Prepared for the
U.S. Department of Energy
Office of Environmental Restoration and Waste Management

BECHTEL JACOBS COMPANY LLC
managing the
Environmental Management Activities at the
Portsmouth Gaseous Diffusion Plant

Bechtel Jacobs Company LLC
P.O. Box 900
Piketon, Ohio 45661

under contract DE-AC05-98OR22700
for the
U.S. DEPARTMENT OF ENERGY

SUBMISSION DATE: February 21, 2000

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SUBMISSION DATE: February 21, 2000

or EPA Regional Use Only	# Hazardous Waste Permit Application Part A	For State Use
Date Received		
I. ID Number(s)		

A. EPA ID Number	B. Secondary ID Number *(if applicable)*
OH7890008983	

II. Name of Facility

Portsmouth GDP

III. Facility Location *(Physical address not P. O. Box or Route Number)*

A. Street		
3930 U.S. Route 23 South		
City or Town	**State**	**ZIP Code**
Piketon	Ohio	45661

County Code *(if known)*	County Name
	Pike

B. Land Type *(enter code)*	C. Geographic Location LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*	D. Facility Existence Date
F	39° 00' 030"	083° 00' 028"	01/14/1955

IV. Facility Mailing Address

Street or P. O. Box		
P. O. Box 700		
City or Town	**State**	**ZIP Code**
Piketon	Ohio	45661-0700

V. Facility Contact *(Person to be contacted regarding waste activities at facility)*

Name *(last)*	*(first)*
Rafferty	Melda J.
Job Title	**Phone Number** *(area code and phone number)*
Environmental Protection Specialist	(740) 897-5521

VI. Facility Contact Address *(See instructions)*

A. Contact Address		B. Street or P. O. Box
Location	Mailing X	P.O. Box 700

City or Town Piketon	State OH	ZIP Code 45661

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EPA I.D. Number *(enter from page 1)*	Secondary I.D. Number *(enter from page 1)*
OH7890008983	
VII. Operator Information *(see instructions)*	

A. Name of Operator
U. S. Department of Energy Bechtel Jacobs Company LLC, Co-Operator
Street or P. O. Box
P. O. Box 900

City or Town	State	ZIP Code
Piketon	Ohio	45661

Phone Number *(area code and number)*	B. Operator Type	C. Change of Operator Indicator	Date Changed
(740) 897-5010 (DOE) (740) 897-2331 (Bechtel Jacobs Company LLC)	F	Yes No X	

VIII. Facility Owner *(see instructions)*
A. Name of Facility's Legal Owner
U. S. Department of Energy
Street or P. O. Box
P. O. Box 700

City or Town	State	ZIP Code
Piketon	Ohio	45661-0700

Phone Number *(area code and number)*	B. Owner Type	C. Change of Owner Indicator	Date Changed
(740) 897-5010	F	Yes No X	

IX. SIC Codes *(4-digit, in order of significance)*

Primary		Secondary	
4953	Refuse Systems		
Secondary		**Secondary**	

X. Other Environmental Permits

A. Permit Type/Number	B. Description	C. Permit
01O00000	DOE NPDES Permit	Permit to Discharge

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X. Other Environmental Permits (continued)

PERMIT TYPE / NUMBER	DESCRIPTION	PERMIT
P007	X-744G Glove Box	Permit to Operate
P019	X-624 Groundwater Treatment Facility	Permit to Operate
F010	X-734 Solid Waste Landfill Closure	Permit to Operate
P018	X-623 Groundwater Treatment Facility	Registered
P027	X-749 Contaminated Materials Disposal Facility	Registered
P028	X-7725 Fluorescent Bulb Crusher	Registered
B005	X-345 Emergency Generator	Registered
T005	X-345 Security Fuel Oil Tank	Registered
B006	X-744G Oil Fired Furnace	Registered
T008	X-744G Fuel Oil Tank (South)	Registered
P020	X-744G Aluminum Melter	Registered
F006	X-735 Landfill Storage Piles	Registered
T006	X-735 Fuel Oil Tank	Registered
P022	X-326 Glove Box	Permit to Operate
P023	X-735 Landfill Cap and Venting System	Permit to Operate

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XI. NATURE OF BUSINESS (PROVIDE A BRIEF DESCRIPTION)

The Portsmouth Gaseous Diffusion Plant has been operating since 1954 enriching uranium for national defense and commercial nuclear reactors. Since July 1, 1993 the uranium enrichment process has been leased to and operated by the United States Enrichment Corporation (USEC), a private corporation formerly owned by the government. DOE's continuing mission at Portsmouth is to safely and effectively manage the environmental restoration, environmental compliance, decontamination and decommissioning activities, waste management including treatment, storage and disposal of hazardous, low-level radioactive and mixed waste, shut-down of the highly enriched uranium operations, and administration of lease agreements.

XII. PROCESS - CODES AND DESIGN CAPACITIES

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	DISPOSAL:	
D79	INJECTION WELL	GALLONS; LITERS; GALLONS PER DAY; OR LITERS PER DAY
D80	LANDFILL	ACRE-FEET OR HECTARE-METER
D81	LAND APPLICATION	ACRES OR HECTARES
D82	OCEAN DISPOSAL	GALLONS PER DAY OR LITERS PER DAY
D83	SURFACE IMPOUNDMENT	GALLONS OR LITERS
	STORAGE:	
S01	CONTAINER (barrel, drum, etc.)	GALLONS OR LITERS
S02	TANK	GALLONS OR LITERS
S03	WASTE PILE	CUBIC YARDS OR CUBIC METERS
SO4	SURFACE IMPOUNDMENT	GALLONS OR LITERS
	TREATMENT:	
T01	TANK	GALLONS PER DAY OR LITERS PER DAY
T02	SURFACE IMPOUNDMENT	GALLONS PER DAY OR LITERS PER DAY
T03	INCINERATOR	SHORT TONS PER HOUR; METRIC TONS ER HOUR; GALLONS PER HOUR; LITERS PER HOUR; OR BTU'S PER HOUR
T04	OTHER TREATMENT *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided in item XIII.)*	GALLONS PER DAY; LITERS PER DAY; POUNDS PER HOUR; SHORT TONS PER HOUR; KILOGRAMS PER HOUR; METRIC TONS PER DAY; METRIC TONS PER HOUR; OR SHORT TONS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
GALLONS PER HOUR	E
GALLONS PER DAY	U
LITERS	L
LITERS PER HOUR	H
LITERS PER DAY	V
SHORT TONS PER HOUR	D
METRIC TONS PER HOUR	W
SHORT TONS PER DAY	N
METRIC TONS PER DAY	S
POUNDS PER HOUR	J
KILOGRAMS PER HOUR	R
CUBIC YARDS	Y
CUBIC METERS	C
ACRES	B
ACRES-FEET	A
HECTARES	Q
HECTARE-METER	F
BTU'S PER HOUR	K

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XII. Process - Codes and Design Capacities *(continued)*

EXAMPLE FOR COMPLETING ITEM XII ***(shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.***

Line Number	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	FOR OFFICIAL USE ONLY
		1. AMOUNT *(specify)*	2. UNIT OF MEASURE *(enter code)*		
1	S01	1.33×10^5 [X-326]	G	1	
2	S01	5.456×10^6 [X-7725]	G	1	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

NOTE: ***If you need to list more than 12 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for additional treatment processes in item XIII.***

XIII. Additional Treatment Processes *(follow instructions from Item XII)*

Line Number *(enter numbers in sequence with Item XII)*	A. PROCESS CODE	B. TREATMENT PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	D. DESCRIPTION OF PROCESS
		1. AMOUNT *(specify)*	1.UNIT OF MEASURE *(enter code)*		
	T04				

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XIV. Description of Hazardous Wastes	

A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants for those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY - *For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.*

C. UNIT OF MEASURE - *For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:*

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous waste that process the characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. *Enter the first two as described above.*
2. *Enter "000" in the extreme right box of Item XIV-D(1).*
3. *Enter in the space provided on page 7, Item XIV-E, the line number and the additional code(s).*

2. PROCESS DESCRIPTION: *If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).*

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - *Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:*

1. *Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.*
2. *In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.*
3. *Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.*

EXAMPLE FOR COMPLETING ITEM XIV *(shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.*

Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS			
				(1) PROCESS CODES (enter)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
X1	K054	900	P	T03	D80		
X2	D002	400	P	T03	D80		
X3	D001	100	P	T03	D80		
X4	D002						Included With Above

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XIV. Description of Hazardous Wastes *(continued)*							
Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS			
				(1) PROCESS CODES (enter)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	27,200	P	S01			
2	D002	85,000	P	S01			
3	D003	1,000	P	S01			
4	D004	10	P	S01			
5	D005	20	P	S01			
6	D006	100,000	P	S01			
7	D007	10,000	P	S01			
8	D008	5,000	P	S01			
9	D009	100	P	S01			
10	D010	10	P	S01			
11	D011	10	P	S01			
12	D015	10	P	S01			
13	D016	10	P	S01			
14	D018	10,000	P	S01			
15	D019	100	P	S01			
16	D020	100	P	S01			
17	D021	100	P	S01			
18	D022	100	P	S01			
19	D023	100	P	S01			
20	D024	100	P	S01			
21	D025	100	P	S01			
22	D027	100	P	S01			
23	D028	10,000	P	S01			
24	D029	10,000	P	S01			
25	D030	10,000	P	S01			
26	D031	100	P	S01			
27	D032	100	P	S01			
28	D033	100	P	S01			
29	D034	100	P	S01			
30	D035	10,000	P	S01			
31	D036	100	P	S01			
32	D037	100	P	S01			
33	D038	1,000	P	S01			
34	D012	10	P	S01			
35	D013	10	P	S01			
36	D014	10	P	S01			
37	D017	10	P	S01			
38	D026	10	P	S01			
39	D039	10	P	S01			
40	D040	10	P	S01			

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XIV. Description of Hazardous Wastes *(continued)*	

Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS			
				(1) PROCESS CODES (enter)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
41	D041	10	P	S01			
42	D042	10	P	S01			
43	D043	10	P	S01			
44	D-XXXX	*	P	S01			
45	F001	2,400	P	S01			
46	F002	1,200	P	S01			
47	F003	2,500	P	S01			
48	F004	1,000	P	S01			
49	F005	1,000	P	S01			
50	F006	1,000	P	S01			
51	F007	400	P	S01			
52	F027	100	P	S01			
53	F-XXXX		P	S01			
54	K-XXXX		P	S01			
55	P001	10	P	S01			
56	P003	13	P	S01			
57	P004	10	P	S01			
58	P005	10	P	S01			
59	P008	10	P	S01			
60	P010	10	P	S01			
61	P011	10	P	S01			
62	P012	10	P	S01			
63	P013	10	P	S01			
64	P015	10	P	S01			
65	P016	10	P	S01			
66	P018	10	P	S01			
67	P020	10	P	S01			
68	P021	10	P	S01			
69	P022	10	P	S01			
70	P023	10	P	S01			
71	P024	10	P	S01			
72	P028	10	P	S01			
73	P029	10	P	S01			
74	P030	10	P	S01			
75	P031	4.4	P	S01			

* Represents any waste code not listed in this description list.

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XIV. Description of Hazardous Wastes *(continued)*

Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS			
				(1) PROCESS CODES (enter)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
76	P033	2.2	P	S01			
77	P037	10	P	S01			
78	P038	10	P	S01			
79	P041	10	P	S01			
80	P042	10	P	S01			
81	P046	10	P	S01			
82	P047	10	P	S01			
83	P048	0.01	P	S01			
84	P050	10	P	S01			
85	P051	10	P	S01			
86	P056	0.6	P	S01			
87	P058	10	P	S01			
88	P059	10	P	S01			
89	P060	10	P	S01			
90	P063	10	P	S01			
91	P064	50	P	S01			
92	P068	10	P	S01			
93	P070	10	P	S01			
94	P071	10	P	S01			
95	P072	10	P	S01			
96	P073	10	P	S01			
97	P074	10	P	S01			
98	P075	10	P	S01			
99	P076	2.6	P	S01			
100	P077	10	P	S01			
101	P078	1.5	P	S01			
102	P082	10	P	S01			
103	P087	1.5	P	S01			
104	P089	10	P	S01			
105	P093	10	P	S01			
106	P095	0.1	P	S01			
107	P098	10	P	S01			
108	P099	10	P	S01			
109	P104	10	P	S01			
110	P105	10	P	S01			
111	P106	10	P	S01			
112	P108	10	P	S01			
113	P110	10	P	S01			
114	P111	10	P	S01			
115	P113	10	P	S01			

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XIV. Description of Hazardous Wastes *(continued)*	

Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS (1) PROCESS CODES (enter)			D. PROCESS (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
116	P114	10	P	S01			
117	P115	10	P	S01			
118	P116	10	P	S01			
118	P119	10	P	S01			
120	P120	10	P	S01			
121	P121	10	P	S01			
122	P123	10	P	S01			
123	P-XXXX	*	P	S01			
124	U001	10	P	S01			
125	U002	10	P	S01			
126	U003	10	P	S01			
127	U004	10	P	S01			
128	U006	10	P	S01			
129	U007	10	P	S01			
130	U008	10	P	S01			
131	U009	10	P	S01			
132	U012	10	P	S01			
133	U017	10	P	S01			
134	U018	10	P	S01			
135	U019	10	P	S01			
136	U020	10	P	S01			
137	U021	10	P	S01			
138	U022	10	P	S01			
139	U023	10	P	S01			
140	U026	10	P	S01			
141	U028	10	P	S01			
142	U029	10	P	S01			
143	U030	10	P	S01			
144	U031	10	P	S01			
145	U032	10	P	S01			
146	U033	10	P	S01			
147	U034	10	P	S01			
148	U036	10	P	S01			
149	U037	10	P	S01			
150	U039	10	P	S01			
151	U041	100	P	S01			
152	U042	10	P	S01			
153	U043	10	P	S01			
154	U044	10	P	S01			

* Represents any waste code not listed in this description list.

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XIV. Description of Hazardous Wastes *(continued)*

Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS (1) PROCESS CODES (enter)			D. PROCESS (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
155	U045	10	P	S01			
156	U046	10	P	S01			
157	U047	10	P	S01			
158	U048	10	P	S01			
159	U050	10	P	S01			
160	U051	10	P	S01			
161	U052	10	P	S01			
162	U055	10	P	S01			
163	U056	10	P	S01			
164	U057	10	P	S01			
165	U060	10	P	S01			
166	U061	10	P	S01			
167	U063	10	P	S01			
168	U064	10	P	S01			
169	U066	10	P	S01			
170	U067	10	P	S01			
171	U068	10	P	S01			
172	U069	10	P	S01			
173	U070	10	P	S01			
174	U071	10	P	S01			
175	U072	10	P	S01			
176	U073	10	P	S01			
177	U074	10	P	S01			
178	U075	10	P	S01			
179	U076	10	P	S01			
180	U077	10	P	S01			
181	U078	10	P	S01			
182	U079	10	P	S01			
183	U080	10	P	S01			
184	U081	10	P	S01			
185	U082	10	P	S01			
186	U083	10	P	S01			
187	U084	10	P	S01			
188	U086	10	P	S01			
189	U088	10	P	S01			
190	U092	10	P	S01			
191	U094	10	P	S01			
192	U096	10	P	S01			
193	U101	10	P	S01			
194	U102	10	P	S01			
195	U105	10	P	S01			

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XIV. Description of Hazardous Wastes *(continued)*							
Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS (1) PROCESS CODES (enter)			D. PROCESS (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
196	U106	10	P	S01			
197	U107	10	P	S01			
198	U108	10	P	S01			
199	U109	10	P	S01			
200	U110	10	P	S01			
201	U112	10	P	S01			
202	U113	10	P	S01			
203	U117	10	P	S01			
204	U118	10	P	S01			
205	U120	10	P	S01			
206	U121	10	P	S01			
207	U122	10	P	S01			
208	U123	10	P	S01			
209	U126	10	P	S01			
220	U127	10	P	S01			
211	U128	10	P	S01			
212	U129	10	P	S01			
213	U130	10	P	S01			
214	U131	10	P	S01			
215	U133	10	P	S01			
216	U134	10	P	S01			
217	U135	10	P	S01			
218	U137	10	P	S01			
219	U138	10	P	S01			
220	U140	10	P	S01			
221	U141	10	P	S01			
222	U142	10	P	S01			
223	U144	10	P	S01			
224	U145	10	P	S01			
225	U146	10	P	S01			
226	U147	10	P	S01			
227	U149	10	P	S01			
228	U150	10	P	S01			
229	U151	100	P	S01			
230	U152	10	P	S01			
231	U153	10	P	S01			
232	U154	10	P	S01			
233	U159	10	P	S01			
234	U160	10	P	S01			
235	U161	10	P	S01			
236	U162	10	P	S01			

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EPA I.D. Number *(enter from page 1)*	Secondary I.D. Number *(enter from page 1)*
OH7890008983	
XIV. Description of Hazardous Wastes *(continued)*	

Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS (1) PROCESS CODES (enter)			D. PROCESS (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
237	U165	10	P	S01			
238	U167	10	P	S01			
239	U169	10	P	S01			
240	U170	10	P	S01			
241	U171	10	P	S01			
242	U182	10	P	S01			
243	U183	10	P	S01			
244	U184	10	P	S01			
245	U185	10	P	S01			
246	U188	10	P	S01			
247	U190	10	P	S01			
248	U191	10	P	S01			
249	U196	10	P	S01			
250	U197	10	P	S01			
251	U201	10	P	S01			
252	U202	10	P	S01			
253	U204	10	P	S01			
254	U205	10	P	S01			
255	U207	10	P	S01			
256	U208	10	P	S01			
257	U209	10	P	S01			
258	U210	10	P	S01			
259	U211	100	P	S01			
260	U213	10	P	S01			
261	U214	10	P	S01			
262	U215	10	P	S01			
263	U216	10	P	S01			
264	U217	10	P	S01			
265	U218	10	P	S01			
266	U219	10	P	S01			
267	U220	10	P	S01			
268	U222	10	P	S01			
269	U223	10	P	S01			
270	U225	10	P	S01			
271	U226	10	P	S01			
272	U227	10	P	S01			
273	U228	10	P	S01			
274	U234	10	P	S01			
275	U235	10	P	S01			

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EPA I.D. Number *(enter from page 1)*	Secondary I.D. Number *(enter from page 1)*
OH7890008983	
XIV. Description of Hazardous Wastes *(continued)*	

Line Number	A. EPA HAZARD WASTE NO. *(enter code)*	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE *(enter code)*	D. PROCESS			
				(1) PROCESS CODES (enter)			(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
276	U236	10	P	S01			
277	U238	10	P	S01			
278	U239	10	P	S01			
279	U240	500	P	S01			
280	U243	10	P	S01			
281	U246	10	P	S01			
282	U247	10	P	S01			
283	U248	10	P	S01			
284	U328	10	P	S01			
285	U353	10	P	S01			
286	U359	10	P	S01			
287	U-XXXX	*	P	S01			

* Represents any waste code not listed in this description list.

EPA I.D. Number *(enter from page 1)*	Secondary I.D. Number *(enter from page 1)*
OH7890008983	

XIV. Description of Hazardous Waste *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 6.

Line Number	Additional Process Codes *(enter)*								

XV. Map

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

XVIII. Certification(s)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Owner Signature	Date Signed
	2/17/2000

Name and Official Title *(type or print)*

L. Dennis Boggs, Acting Site Director Portsmouth Site Office

Operator Signature	Date Signed
	2/17/00

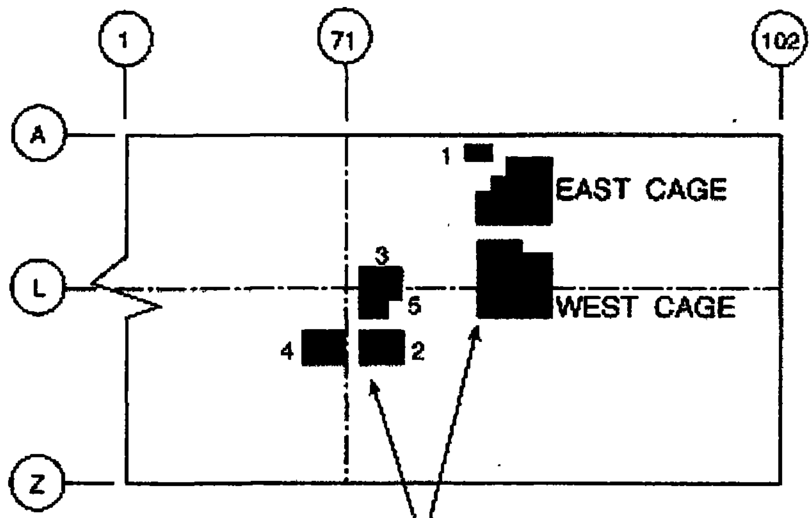
Name and Official Title *(type or print)*

J. E. King, Manager of Projects Bechtel Jacobs Company LLC - Portsmouth Project

XIX. Comments

Facility Drawing

X-326 Mixed Waste Storage Unit

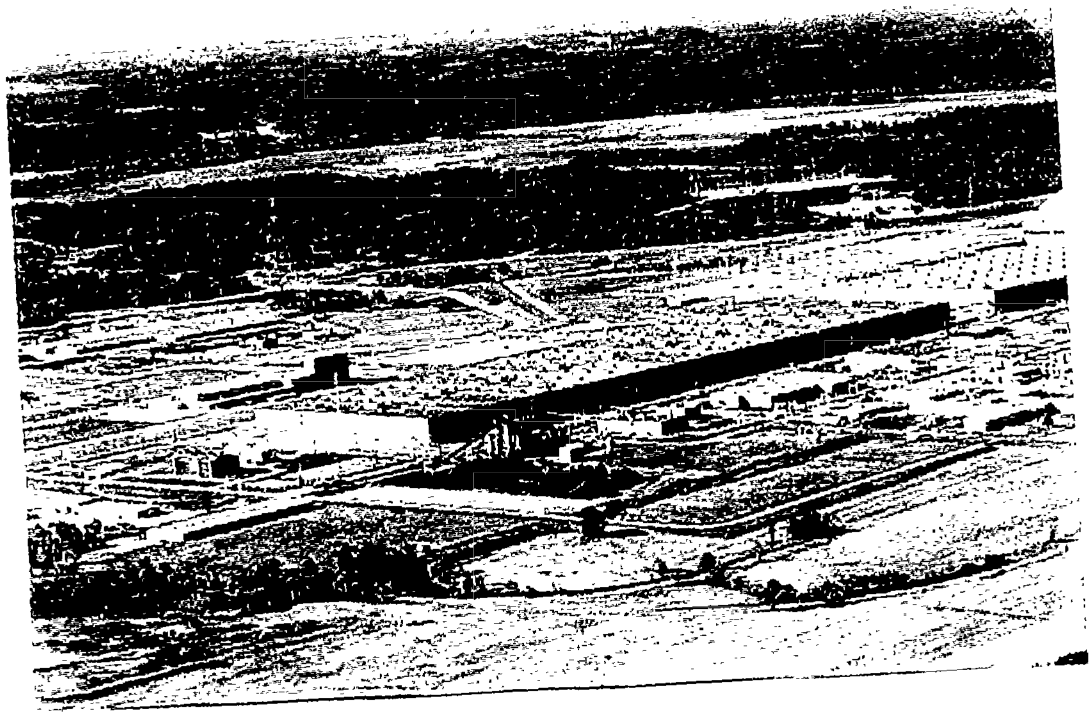


X-326 BUILDING

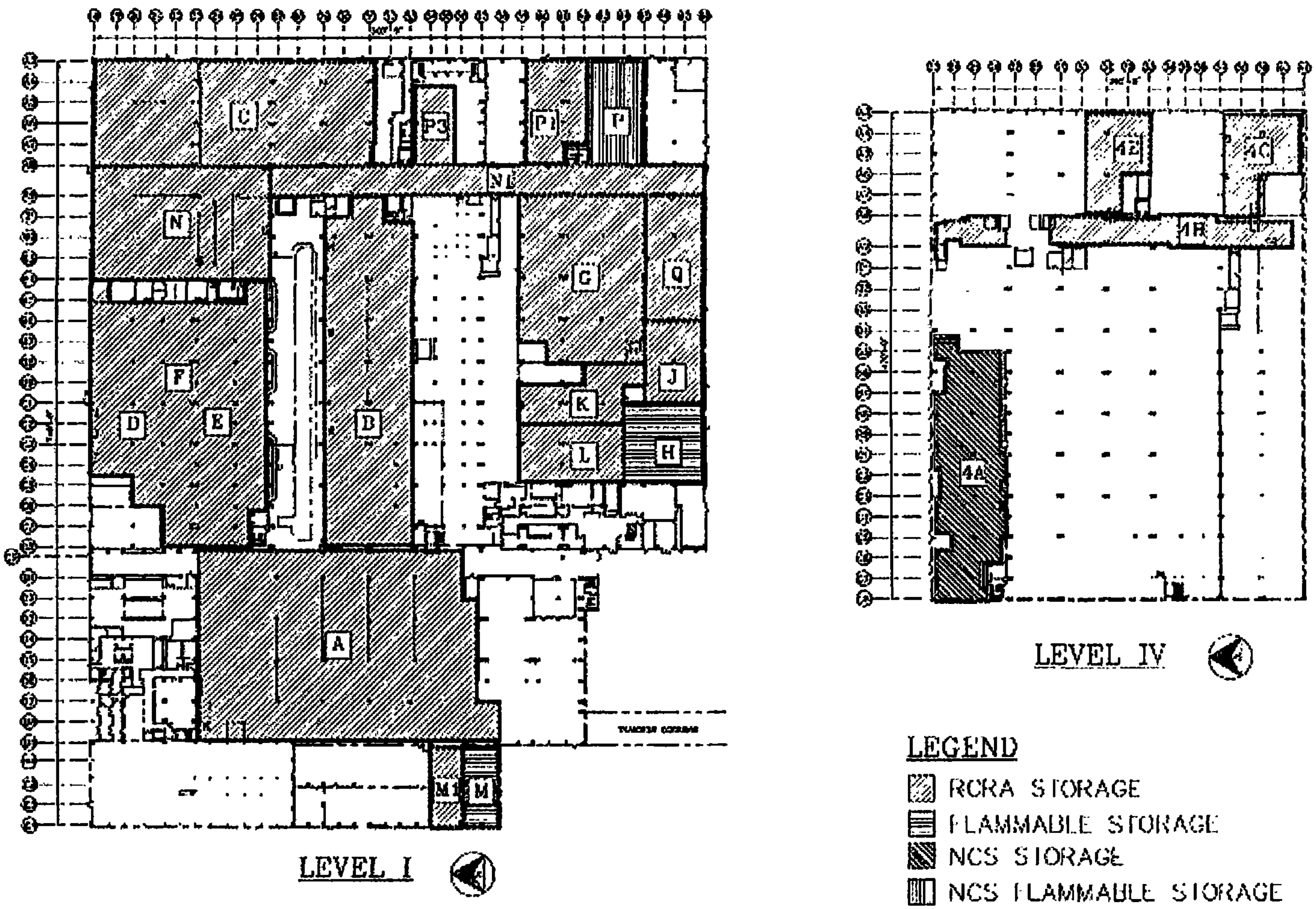
FLOOR PLAN

RCRA STORAGE AREAS

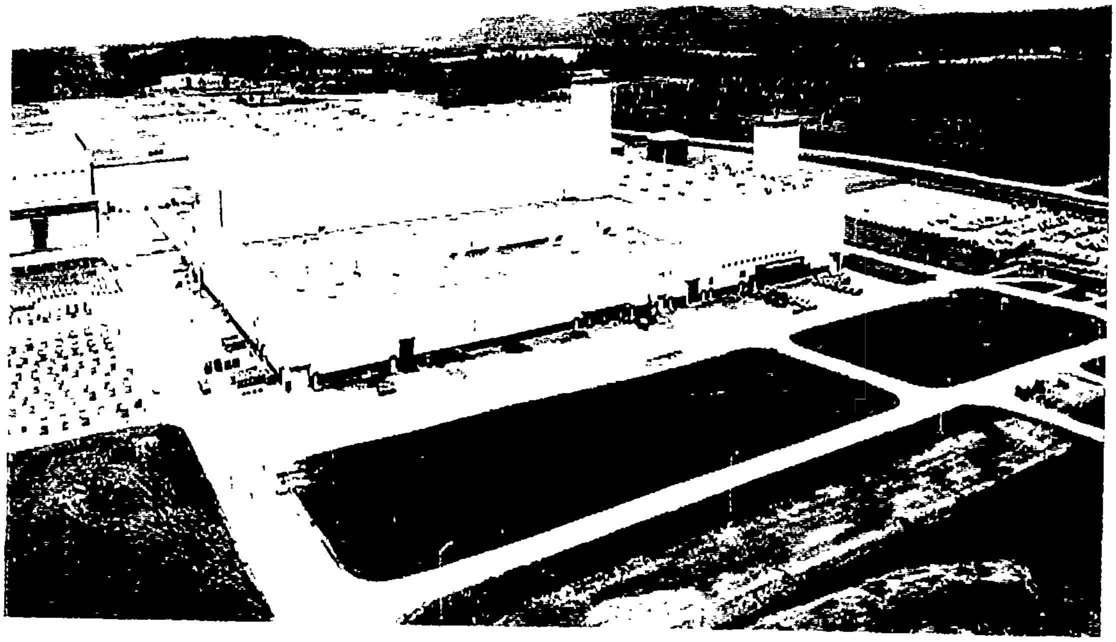
SCALE: NONE



1. X-326 Overview



X-7725 BUILDING – STORAGE AREAS



1. X-7725 Overview

SECTION B - TABLE OF CONTENTS

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Section B

Facility Description

B-1 General Description [3745-50-44(A)(1)]

This facility description section is intended to provide the permit application reviewer with a general overview of the Portsmouth Gaseous Diffusion Plant (PORTS) facility and the activities conducted at the site by the U. S. Department of Energy (DOE). The RCRA Part B Hazardous Waste Permit Application that comprises this document is for a final permit for container storage units X-326 and X-7725 and is divided into Sections A through N. Documents and information required to support a particular section are provided within that section. Section A of this permit comprises the requirements of the "Part A" permit application for the X-326 and X-7725 hazardous waste storage units at PORTS.

PORTS is owned by DOE and is contractor managed by Bechtel Jacobs Company LLC. For the purposes of this permit application, DOE and Bechtel Jacobs Company LLC are Co-Operators of the X-326 and X-7725 Hazardous Waste Storage Units. Currently, DOE activities at PORTS employ approximately 200 people. The address for the facility is:

U.S. Department of Energy
Portsmouth Gaseous Diffusion Plant
3930 U.S. 23 South
Piketon, OH 45661

The mailing address for all correspondence is:

U.S. Department of Energy
Attention: Melda J. Rafferty
P.O. Box 700
Piketon, OH 45661

The primary contact for hazardous waste storage activities at PORTS is:

U.S. Department of Energy
Attention: Melda J. Rafferty
P.O. Box 700
Piketon, OH 45661

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The U.S. EPA identification number for DOE Operations at PORTS is:

OH7890008983

PORTS is located at 39°00'30" N latitude and 83°00'28" W longitude on a 3,714-acre federally owned reservation in Pike County, Ohio. Pike County, one of the state's lesser populated counties, encompasses an area of approximately 444 square miles. The site is located approximately equidistant between Chillicothe and Portsmouth, Ohio, as shown in Fig. B-1. The plant site is approximately 4 miles southeast of Piketon, Ohio, 1.5 miles east of U.S. Route 23, 2 miles east of the Scioto River, and 70 miles south of Columbus, Ohio. Major site facilities are shown in Fig. B-2. Figs. B-3 through B-6 each present one-quarter of the site in greater detail with topographic contours.

PORTS has operated since 1954, enriching uranium for national defense and commercial nuclear reactors. That enrichment is accomplished by the gaseous diffusion process.

As of 1993, all uranium enrichment operations at PORTS are conducted by the United States Enrichment Corporation, formed as a government-owned corporation by the Energy Policy Act of 1992, that became private in July 1998. As such, DOE's mission at the PORTS site has changed to environmental restoration, waste management, removal of highly enriched uranium, and operation of nonleased facilities.

As a result of historical and current enrichment operations, and as is typical of large industrial plants, a wide variety of hazardous wastes are generated. These include analytical laboratory wastes, spent solvents, electroplating wastes, paint wastes, sludges, corrosive wastes, and environmental restoration generated wastes. Table B-1 shows the status of active hazardous waste management units at PORTS and includes the hazardous waste container storage units X-326 and X-7725. Descriptions of X-326 and X-7725 are provided in the paragraphs that follow. Table B-2 provides a listing of solid waste management units at PORTS.

X-326 Hazardous Waste Container Storage Unit

The X-326 Storage Unit is located in the central part of the PORTS site. The X-326 Building has been in use since 1956 for the enrichment of uranium hexafluoride. The structure is 2,230 feet long, 552 feet wide, and 62 feet high. It contains 58 acres of floor space. The X-326 Building is totally enclosed with a built-up roof, transite walls, and concrete floors. There are six areas of the building, totaling approximately 31,888 square feet, designated for the storage of hazardous wastes. The storage areas are located on the first floor towards the south end of the building (Fig. B-4).

The X-326 Storage Unit is intended for the storage of high assay uranium bearing hazardous wastes until further uranium classification, or off-site shipment for recovery, treatment, or disposal is completed. Waste types to be stored in the X-326 hazardous waste storage areas may include any or all of the waste codes specified in Part A of this permit application.

Six areas have been delineated for the storage of hazardous wastes in the X-326 building. These are: Areas 1, 2, 3, 4, and 5, and the "L" Cage (the "L" Cage consists of both the east cage and the west cage). Storage area floors are primed and finished with a urethane-based sealant. All storage areas are surrounded by a 1" x 1" x 1/8" angle iron dike set in a chemically resistant elastomeric sealant. The floors are 0.8 feet thick and constructed of concrete.

X-7725 Hazardous Waste Container Storage Unit

The X-7725 Building was originally designed for Gaseous Centrifuge Enrichment (GCEP) activities. However, after GCEP was canceled in 1985, the X-7725 Building was selected as the site for hazardous waste container storage because it has a large area of floor space kept under climate-controlled conditions. The building consists of five floors with 20 acres of total floor space under roof. Approximately 9 acres of floor space are used for hazardous waste container storage activities. The building is divided into a number of rooms, staging areas, open bays, and offices (Fig. B-4).

The X-7725 Building has built-up roofing over rigid insulation and metal decking. Room and bay ceiling heights range from 11 feet to 75 feet. Each level of the roof is designed to direct rainwater drainage to metal downspouts, which discharge to a storm sewer. The flooring is constructed of reinforced concrete slabs varying from 6 to 17 inches thick. The entire building is climate-controlled.

Wastes that may be stored in the X-7725 Building hazardous waste storage areas include any of the waste codes listed in Part A of this application.

All hazardous waste storage areas in the X-7725 Building have berms to provide for a secondary containment capacity of 10% of the total waste volume of hazardous waste stored and 25% of the total waste volume where RCRA/TSCA wastes are stored. The floor of the X-7725 Building is free of cracks and gaps and is sealed with a chemically resistant sealant.

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B-2 Topographic Map [3745-50-44(A)(19)]

The topographic contours for the PORTS site are presented in Figs. B-3 through B-6 and indicate map scale, surface waters and intermittent streams, surrounding land uses, orientation, legal boundaries of the DOE reservation, access control to the limited area, buildings, barriers for drainage and/or flood control, as well as the location of the X-326 Building and X-7725 Building hazardous waste storage areas.

Fig. B-2 shows the 100-year floodplain areas because they do not extend close enough to be included in the quadrant maps; in addition, the DOE boundary is shown with a margin that extends at least 1,000 feet beyond any unit boundary. The scale of 1 inch equals 450 feet was used to show the complete facility on one map. All units lie more than 1,000 feet from the boundary of the site. All other maps are rendered at the required scale. The surrounding land usage is farmland and timberland with scattered residences, as evidenced by the map.

All private withdrawal wells within 1,000 feet of the DOE boundary are shown on Figs. B-3 through B-6. This information was obtained from the Ohio Department of Natural Resources.

B-3 Facility Location - Floodplain [3745-50-44(A)(11)(c)]

A flood hazard boundary map for Pike County, Ohio, was obtained to determine whether the facility is located in a 100-year floodplain. The information from this map is depicted in Fig. B-2 and was derived from the Federal Insurance Administration (FIA) map panels 110 and 125 of FIA map No. 39131C0000. As presented on Fig. B-2, the X-326 and X-7725 hazardous waste storage units do not lie within a 100-year floodplain.

B-4 Facility Location - Seismic [3745-54-18(A)]

Appendix VI of 40 CFR 264 lists political jurisdictions in which compliance with seismic standards must be demonstrated. Pike County, Ohio, is not listed in Appendix VI; therefore seismic considerations need not be addressed.

B-5 Traffic Patterns [3745-50-44(A)(10)]

Traffic associated with waste movement at PORTS is limited to on-site waste generation movement and off-site waste shipments to commercial and/or government treatment or disposal facilities.

Access to PORTS for off-site shipments is from five major roads: State Route 32 from the north; U.S. Route 23 from the west; Old Route 23 from the southwest; Big Run Road from the south; and Dutch Run Road from the east. Commercial carriers are instructed to use U.S. Route 23 or State Route 32.

The PORTS controlled area is traversed by approximately 17 miles of paved roads. These roadways provide vehicular access to all buildings and remote facilities and are capable of bearing heavy loads, such as construction equipment, tanker trucks, and trailers. The base of the road system at PORTS is comprised of 9-12 inches of aggregate base material meeting Ohio Department of Transportation specification 304 and also incorporates a minimum 3 inches of asphaltic concrete surface. This type of construction meets the American Association of State Highway Official specification for a roadway surface requiring an 18,000 pound per axle loading capacity.

All roadways at PORTS accommodate two-way traffic and have posted speed limits. Vehicular traffic at all intersections is controlled by traffic lights, stop signs or yield signs, as appropriate. The PORTS security police provide traffic control on the plant perimeter road.

A traffic survey was conducted by the Portsmouth Safety Analysis Department in 1988 and updated in 1990. Traffic flow and volume at PORTS indicate a rise in morning traffic as the workforce arrives, a sustained level during the daylight hours, and a reduction in late afternoon as the day shift leaves. Volume estimates are supplied in Tables B-3 and B-4.

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Table B-1
Hazardous Waste Management Units

Unit	Status
X-326 Hazardous Waste Container Storage Unit	Operating as Permitted Storage Unit
X-7725 Hazardous Waste Container Storage Unit	Operating as Permitted Storage Unit
X-326 DMSA	Closure Work Completed and Approved by Ohio EPA
X-744Y Radiological Waste Storage Yard	Unit integrated into RCRA Corrective Action Program
X-231B Land Treatment Unit	Unit integrated into RCRA Corrective Action Program
X-701B Surface Impoundment	Unit integrated into RCRA Corrective Action Program
X-735 North Landfill	Closure Completed: In Post-closure Care
X-749 Landfill	Closure Completed: In Post-closure Care
X-616 Surface Impoundment	Closure Completed: In Post-closure Care
X-230J7 Surface Impoundment	Unit integrated into RCRA Corrective Action Program
X-701C Neutralization Pit	Unit integrated into RCRA Corrective Action Program

Table B-2
Solid Waste Management Units

UNIT NUMBER	UNIT TITLE
X-231A	OIL BIODEGRADATION PLOT
X-231B	OIL BIODEGRADATION PLOT
X-701BP	NORTHEAST OIL BIODEGRADATION PLOT
X-614A	SEWAGE LIFT STATION
X-614B	SEWAGE LIFT STATION
X-614D	SEWAGE LIFT STATION
X-614P	SEWAGE LIFT STATION
X-615	ABANDONED SANITARY SEWAGE TREATMENT PLANT
X-616	EFFLUENT CONTROL FACILITY/FORMER CHROMIUM SLUDGE LAGOONS
X-617	pH ADJUSTMENT
X-622T	CARBON FILTRATION UNIT
X-622	SOUTH GROUNDWATER TREATMENT FACILITY
X-623	NORTH GROUNDWATER TREATMENT FACILITY
X-624	GROUNDWATER TREATMENT FACILITY
X-625	GROUNDWATER TREATMENT FACILITY
X-626	RECIRCULATING WATER PUMP HOUSE AND COOLING TOWER
X-630	COOLING TOWER BASIN
X-630-1 X-630-2 X-630-2	RECIRCULATING WATER PUMP HOUSE, COOLING TOWER, AND ACID HANDLING STATION
X-633	RECIRCULATING WATER PUMP HOUSE AND COOLING TOWER
X-701E	NEUTRALIZATION FACILITY
X-230G	RCW SYSTEM
X-6614E	SEWAGE LIFT STATION
X-6614J	SEWAGE LIFT STATION
X-6619	SEWAGE TREATMENT FACILITY
	SANITARY SEWER SYSTEM

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Table B-2 (continued)

UNIT NUMBER	UNIT TITLE
	STORM SEWER SYSTEM
X-103	AUXILIARY OFFICE BUILDING
X-104A	INDOOR FIRING RANGE
X-114A	FIRING RANGE
X-120	OLD TRAINING FACILITY SITE
X-326	PROCESS BUILDING
X-330	PROCESS BUILDING
X-333	PROCESS BUILDING
X-343	FEED VAPORIZATION AND SAMPLING FACILITY
X-344C X-344D	HF STORAGE FACILITY AND HF NEUTRALIZATION PIT
X-600 X-600A	COAL FIRED STEAM PLANT AND COAL STORAGE YARD
X-700	CHEMICAL CLEANING FACILITY (SOILS ONLY)
X-700 X-705	PROCESS WASTE LINE SOILS
X-700T	TCE/TCA OUTSIDE STORAGE TANK (SOILS ONLY)
X-701C	NEUTRALIZATION PIT (SOILS ONLY)
X-705	DECONTAMINATION BUILDING (SOILS ONLY)
X-705A X-705B	RADIOACTIVE WASTE INCINERATION /CONTAMINATED BURNABLES STORAGE LOT (SOILS ONLY)
X-710	TECHNICAL SERVICES BUILDING AND NEUTRALIZATION PIT (SOILS ONLY)
X-720	MAINTENANCE BUILDING (SOILS ONLY)
X-736	CONSTRUCTION SPOILS AREA
X-744Y X-744G	WASTE STORAGE YARD AND BULK STORAGE BUILDING (SOILS ONLY)
X-744W	SURPLUS AND SALVAGE WAREHOUSE
X-749	CONTAMINATED MATERIALS DISPOSAL FACILITY (SOILS ONLY)
X-751	[redacted] EQUIPMENT GARAGE

Table B-2 (continued)

UNIT NUMBER	UNIT TITLE
X-760	PILOT INVESTIGATION BUILDING AND NEUTRALIZATION PIT (SOILS ONLY)
X-770	MECHANICAL TESTING FACILITY
X-3001	PROCESS BUILDING
X-3346	FEED AND WITHDRAWAL FACILITY
	BARREN AREA
	OLD NORTHWEST FIRING RANGE (RUBY HOLLOW)
	RAILROAD SPUR YARD STORAGE AREA
	TRANSFORMER CLEANING STORAGE PAD
X-530A X-530B X-530C X-530D X-530E X-530F X-530G	SWITCHYARD, SWITCH HOUSE, TEST AND REPAIR BUILDING, OIL HOUSE, VALVE HOUSE, AND GCEP OIL PUMPING STATION
X-533A X-533B X-533C X-533D X-533E X-533F X-533H	SWITCHYARD, SWITCH HOUSE, TEST AND REPAIR BUILDING, OIL HOUSE AND ASSOCIATED FRENCH DRAINS, VALVE HOUSES, AND GAS RECLAIMING CART GARAGE
X-747G	NORTHEAST CONTAMINATED MATERIAL STORAGE YARD (SOILS ONLY)
X-747F	MISCELLANEOUS MATERIALS STORAGE YARD
X-747H	NORTHWEST SURPLUS AND SCRAP YARD
	DON MARQUIS SUBSTATION (DRAINAGE COLLECTION PONDS) AND CONSTRUCTION SPOILS
X-326	CONTAINER STORAGE UNIT (L-CAGE)
X-326	PCB STORAGE UNIT
X-330	PCB STORAGE AREA
X-333	PCB STORAGE AREA
X-705B	CONTAMINATED BURNABLES STORAGE LOT
X-741	OIL DRUM STORAGE FACILITY

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Table B-2 (continued)

UNIT NUMBER	UNIT TITLE
X-744G	UNRESTRICTED CONTAINER STORAGE UNIT
X-744G	RESTRICTED CONTAINER STORAGE UNIT
X-744P X-744N X-744Q	WAREHOUSES AND ASSOCIATED OLD CONSTRUCTION HEADQUARTERS
X-744S X-744T X-744U	WAREHOUSES
X-744RW	RETRIEVABLE WASTE STORAGE AREA
X-744Y	RAD WASTE STORAGE YARD
X-745B	ENRICHMENT PROCESS GAS YARD
X-745C	WEST CYLINDER STORAGE YARD
X-745E	NORTHWEST INTERNATIONAL PROCESS GAS YARD
X-745F	NORTH PROCESS GAS STOCKPILE YARD
X-752	HAZARDOUS WASTE STORAGE FACILITY
XT-847	WAREHOUSE
X-7725 X-7745R BFS FACILITY	RECYCLE & ASSEMBLY BUILDING, RECYCLE & ASSEMBLY STORAGE YARD, AND INITIAL CONSTRUCTION BULK FUEL STORAGE AREA (BULK FUEL STORAGE SWMU)
X-7725	CONTAINER STORAGE UNIT
X-7725	NON-HAZARDOUS WASTE CONTAINER STORAGE UNIT
X-7725R	STORAGE YARD
X-334	TRANSFORMER STORAGE AND CLEANING BUILDING
X-342A X-342B X-342C	FEED VAPORIZATION AND FLUORINE GENERATION BUILDING, FLUORINE STORAGE BUILDING, AND WASTE HF NEUTRALIZATION PIT
X-344 X-344A	URANIUM HEXAFLUORIDE SAMPLING FACILITY AND SETTLING TANK
X-344D	HF NEUTRALIZATION PIT
X-700CT	CHEMICAL AND PETROLEUM STORAGE CONTAINMENT TANKS

Table B-2 (continued)

UNIT NUMBER	UNIT TITLE
X-701C	NEUTRALIZATION PIT
X-701E	NEUTRALIZATION FACILITY
X-710	RADIOACTIVE WASTE PIT
X-720	NEUTRALIZATION PIT AND SOILS
X-740	WASTE OIL HANDLING FACILITY
X-750	MOBILE EQUIPMENT MAINTENANCE SHOP, FUEL STATION, AND WASTE OIL TANK
X-751	MOBILE EQUIPMENT GARAGE
X-760	NEUTRALIZATION PIT
	CHEMICAL AND PETROLEUM CONTAINMENT BASINS (EAST OF X-533A) AND EMERGENCY CONTAINMENT TANKS
	GCEP UNDERGROUND STORAGE TANKS
X-230J3	RUNOFF POND
X-230J3	WEST ENVIRONMENTAL SAMPLING BUILDING AND INTERMITTENT CONTAINMENT BASIN
X-230J5	WEST HOLDING POND AND OIL SEPARATION BASIN
X-230J6	NORTHEAST HOLDING POND, MONITORING STATION, AND SECONDARY OIL COLLECTION BASIN
X-230J7	EAST HOLDING POND AND OIL SEPARATION BASIN
X-230K	SOUTH HOLDING POND
X-611A	NORTH, MIDDLE, AND SOUTH LIME SLUDGE LAGOONS
X-611B	LIME SLUDGE LAGOON
X-621	COAL PILE RUNOFF TREATMENT FACILITY
X-701B	HOLDING POND, CONTAINMENT PONDS AND RETENTION SOILS
X-2230M	SOUTHWEST HOLDING POND, WASTE PILE AND X-617 pH ADJUSTMENT UNIT
X-2230N	WEST HOLDING POND NO. 2
X-734 X-734A X-734B	OLD SANITARY LANDFILL, CONSTRUCTION SPOILS LANDFILL, AND OLD CONSTRUCTION SPOILS LANDFILL
X-735	RCRA LANDFILL

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Table B-2 (continued)

UNIT NUMBER	UNIT TITLE
X-735 AND X-735A	SANITARY LANDFILL AND LANDFILL UTILITY BUILDING
X-749 NORTH	HAZARDOUS WASTE LANDFILL
X-749 SOUTH	SOLID WASTE LANDFILL
X-749A	CLASSIFIED MATERIALS DISPOSAL UNIT
X-749B	PETER KIEWIT LANDFILL
	BIG RUN CREEK
	EAST DRAINAGE DITCH
	LITTLE BEAVER CREEK
	NORTH DRAINAGE DITCH, X-230L NORTH HOLDING POND, AND UNNAMED CONSTRUCTION FILL AREA
	NORTHEAST DRAINAGE DITCH
	WEST DRAINAGE DITCH
	5-UNIT GROUNDWATER PLUME
	7-UNIT GROUNDWATER AREA
	X-701B AREA GROUNDWATER AREA
	X-740 WASTE OIL HANDLING FACILITY (GROUNDWATER ONLY)
	X-749/X-120 GROUNDWATER PLUME

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Table B-3
All DOE Vehicles Operating at PORTS – 1998

Description	Number
Auto	2
Pickup	33
Van	6
Truck (1 ton and up)	8
Bulldozer	2
Grader/Paver	1
Fork Lift	37
Allied Wagner Cylinder Stacker	1
Track Hoe	1
Garbage Truck	1
(Other) Front End Loader	1
(Other) Trash Compacter	2
Total	95

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Table B-4
Vehicles Operating at PORTS* – 1990

Dept. Number	Dept. Name	No. of Vehicles	Trips/ Day	Miles/ Day	Miles/ Year
001	Off-site Contractors	21	48	139	34,730
002	Credit Union	1	2	2	500
221	Training	3	22	38	9,500
330	Materials & Services	12	52	60	15,000
501	Quality/Technical Service	1	8	16	4,000
540	Data Processing	4	32	104	26,000
541	Lab Services	1	1	2	500
542	Mail & Records	3	21	210	52,500
543	Reproduction	4	22	44	11,000
551	Quality Control	6	20	74	18,500
611	Electrical Engineering	1	3	6	1,500
621	Mechanical/Civil Engineering	2	4	10	2,500
632	Construction Engineering	4	3	24	6,000
633	GCEP Engineering Management	2	14	56	14,000
700	Maintenance	261	936	705	176,107
811	X-333 Building	1	5	8	1,875
812	X-330 Building	2	12	21	5,250
814	X-326 Building	1	5	10	2,500
823	Chemical Operations	12	71	142	35,600
829	Uranium Materials Handling	5	27	54	13,800
831	Power Operations	6	27	76	19,000
832	Utilities Operations	11	453	1260	315,075
911	Police	29	70	968	242,100
912	Security & Police	13	24	75	18,750
920	Fire Protection Services	2	12	6	1,500
921	Fire Department	8	14	40	10,000
	TOTAL	**416**	**1,908**	**4,150**	**1,037,787**

*Excludes all vehicles that travel solely within a building or production area.

FIGURE B-1
Plantsite Location within State of Ohio

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Section C

Waste Characteristics

C-1 Chemical and Physical Analysis [3745-50-44(A)(2), 3745-54-13(A)]

The Portsmouth Gaseous Diffusion Plant (PORTS) is a large, industrial, chemical processing complex that generates a variety of wastes. The Department of Energy is responsible for environmental restoration and waste management at the site. The gaseous diffusion process buildings and related facilities were leased to United States Enrichment Corporation (USEC) on July 1, 1993. USEC is responsible for the waste generated as a result of the gaseous diffusion process. The X-326 and X-7725 container storage units are used to store waste generated by DOE from current environmental restoration and waste management activities and waste generated prior to the lease agreement with USEC. Some USEC-generated wastes are also stored in the container storage units. Limitations on the storage of USEC Land Disposal Restriction wastes are provided by a separate Director's Finding and Orders for USEC. DOE and Bechtel Jacobs Company LLC are not responsible for compliance with the USEC Order.

Waste managed by DOE includes a variety of closure and remediation wastes, such as excavated soils, wastewater treatment sludge, neat trichloroethylene, and "legacy" waste generated from the gaseous diffusion plant operations prior to the lease agreement with USEC. The gaseous diffusion process, which has been operated by USEC since July 1, 1993, produces enriched uranium using conventional mechanical equipment.

All of the hazardous wastes generated at PORTS by DOE are currently assumed to include radioactive material from DOE operations and must be stored onsite as mixed (hazardous and radioactive) waste. Wastes determined to be mixed wastes are managed at the X-326 or X-7725 container storage units or shipped to another DOE Facility until approved treatment and disposal methods for mixed wastes are available. If sufficient documentation is developed to demonstrate that a waste contains no added radioactive constituents, the waste will be shipped offsite to a commercial treatment, storage, disposal, or recycling facility.

The largest volume of wastes generated by DOE are from environmental restoration activities at the site. The hazardous wastes generated by diffusion-related activities, currently conducted by USEC, consists of oils, solvents, and other cleaning agents produced in decontamination and maintenance activities. These hazardous wastes are predominantly characterized on the basis of process knowledge. PORTS assumes that suspected contaminants are present until further investigation and/or analysis proves the constituents are not present or are present at concentrations below characteristic regulatory thresholds. All hazardous wastes are stored in the container storage units located within the X-326 and X-7725. A detailed description of these units is presented in Section D.

The following text and Table C-1 provide a brief description of each hazardous waste stream stored at PORTS presented by activity or area of generation. These descriptions include the following information for each waste stream: the generating process; the history of the process (where relevant); the hazardous characteristic or nature of each waste stream; and the basis for characterization. The constituency and hazardous waste code designations provided represent a survey of the general nature of each waste stream. Actual constituency and waste codes will not necessarily include all those provided in the following discussion. These waste streams and sources include certain historically generated wastes remaining in storage because of a lack of offsite treatment or disposal methods. In addition, waste streams and sources identified in this section include wastes/sources that are currently anticipated from planned activities. Proper storage of all wastes is ensured through the use of the waste stream review/analysis procedures provided in Section C-2.

The list of waste streams presented in Table C-1 includes a brief explanation of the basis for characterization for each waste stream. PORTS most commonly uses its understanding of generating processes, manufacturer's knowledge and materials used to characterize its wastes, and Table C-1 reflects this characterization. PORTS often uses Material Safety Data Sheets (MSDSs) in support of its waste characterizations based on process knowledge. PORTS has conducted analysis for several wastes to confirm characterization. Table C-1 indicates whether or not analysis exists and example analytical reports are presented in Appendix C-1. In addition, representative MSDSs used to support waste characterization are presented in Appendix C-2. All data supporting waste characterizations are maintained in the facility operating record for a minimum of 3 years.

It is important to note that many petroleum products are used at PORTS, and because benzene is commonly found in many petroleum products, benzene has been identified as a potential constituent of the waste oils and fuels found at PORTS. Accordingly, PORTS is currently managing many petroleum products as hazardous wastes because the analytical method previously used had detection limits that were higher than the regulatory threshold for benzene. This problem has been overcome with improved analytical techniques.

Waste streams have been assigned numbers to facilitate cross referencing between the waste stream narrative, Table C-1, and the support documents in Appendix C-1. Waste stream numbers begin with number or letter designations representing the building or activity that is the primary source of the wastes. Letter precursors of PORTS building numbers such as "X" have been omitted to simplify the numbering system. Following the characters identifying the source is a number representing each individual waste stream from a generating source. For example, waste stream number 100-1 represents the first waste stream discussed from the X-100 Administration Building. In the case of waste streams that are common across the plant site, the letters "SW" are used as the designated source of the wastes, representing wastes that are generated site wide. Waste stream numbers have relevance only in this permit application and do not reflect any numbers that are or will be assigned by DOE and/or Bechtel Jacobs Company LLC in managing the X-326 or the X7725 container storage units.

Site Wide (SW)

Many waste streams generated at PORTS are common to various locations around the site. Rather than discuss these wastes in the context of each building or generating source, the following text describes them as they occur site-wide.

Laboratory Off-Specification Chemicals

Due to the nature of the laboratory activities conducted in various locations at PORTS, a large number of small containers of chemicals are required for testing and formulation. These chemicals are routinely depleted, but occasionally they must be considered waste due to process changes or to chemicals being stocked past their shelf lives. Laboratory off-specification chemicals (SW-1) are now classified as with metals (SW-1A) or without metals (SW-1B), when possible, and are characterized as hazardous wastes through process knowledge (as shown on Table C-1) according to the nature of the constituents identified on the containers or MSDSs.

Rags, Gloves, Wipes, Absorbent Material, etc.

Operations at PORTS involve the use of rags, gloves, wipes, absorbent materials, etc. in support of processes and activities in every building. These materials (SW-2) are primarily used in general cleaning, spill cleanup, material handling, and various maintenance activities as provided in Table C-1. Such materials are characterized as hazardous wastes through process knowledge and MSDS information on the basis of their usage and constituency. In addition, analysis of these wastes from several sources has found the wastes may contain chromium (D007), lead (D008), and/or benzene (D018).

Floor Sweepings

Floor Sweepings (SW-3) are generated by housekeeping activities in all PORTS process-related buildings. Based on analytical results, these sweepings are characterized as hazardous wastes because they contain cadmium (D006), chromium (D007), lead (D008), and/or selenium (D010). Metals found in floor sweepings are from maintenance or machining activities in the cascade process buildings.

Batteries

Operations at PORTS involve the use of batteries in a variety of applications. Batteries managed as hazardous waste include lithium batteries (SW-4A), mercury batteries (SW-4B), spent and/or broken lead-acid batteries (SW-4C), and nickel-cadmium batteries (SW-4D). These waste batteries are characterized as D003, D007; D009; D002, D008; and D006 hazardous wastes, respectively, due to the presence of acid and chromium; mercury; acid and lead; or cadmium, as identified in MSDS for the batteries. Waste Stream SW-4 is maintained for historical battery waste that are mixed battery types.

Light Bulbs

Spent fluorescent bulbs (SW-5A), mercury-vapor bulbs (SW-5B), and sodium-vapor and other incandescent light bulbs (SW-5C) are characterized as hazardous wastes at PORTS due to the presence of mercury (D009) and/or lead (D008). Waste stream SW-5 is maintained for spent light bulbs that are not releasable due to radiological concerns. Metallic constituents in the light bulbs were identified by the bulb manufacturers. Available documentation supporting the hazardous waste characterization of waste bulbs is provided in Appendix C-1.

Antifreeze

During routine and preventative maintenance operations of facilities and machinery, quantities of waste antifreeze solutions are generated. Waste antifreeze (SW-6) is characterized as hazardous waste as a result of analytical data, which indicates the presence of selenium (D010).

Gas Cylinders

Spent commercial compressed-gas cylinders (SW-7) are generated at PORTS. A cylinder of hydrogen cyanide (P063) became off-specification when instruments that used hydrogen cyanide in their calibration process were replaced with instruments that did not. Other spent off-specification cylinder contained gases, such as chlorine trifluoride (D003) or acetylene (D001), are also anticipated to be generated as a result of process changes.

Aerosol Cans

PORTS uses aerosol cans containing various paints, cleaning solutions, oils, and pesticides in numerous applications throughout the plant. In general, these products are depleted, but occasionally are damaged or determined to contain dated materials and must be managed as wastes. Waste aerosol cans (SW-8) containing product are characterized as hazardous waste based on process knowledge (as provided in Table C-1) according to the nature of their contents as indicated on container markings and labels, as well as on MSDSs. Aerosol cans are stored in drums and labpacks.

Diesel Fuel, Gasoline and Kerosene

Routine and periodic maintenance of generators, pumps, vehicles, and other petroleum-powered devices generates waste fuels. These waste fuels (SW-9) are characterized as hazardous waste based on process knowledge and MSDS information because they may be ignitable (D001) and may contain lead (D008) and benzene (D018). In addition, analysis has found the waste fuels may contain chromium (D007) and confirms that lead (D008) is present in the wastes.

Recirculating Cooling Water/Recirculating Heating Water (RCW/RHW) System Waste

In mid 1991, PORTS completed the process of substitution of a phosphate-based corrosion inhibitor for the chromate-based inhibitor that had been used in cooling and heating water systems. Due to system chromium residuals, chromium-bearing (D007) solid and liquid wastes (SW-10) continue to be generated throughout the plant as a result of the maintenance of the cooling and heating system equipment, and are characterized as hazardous wastes based on analysis.

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Non-Laboratory Off-Specification Chemicals

A variety of chemicals are used in production and support operations at PORTS. Aside from the wastes generated from the use of these chemicals that are described elsewhere in this text, these chemicals also sometimes become wastes in unused form. Waste unused chemicals (SW-11) are classified as with metals (SW-11A) and without metals (SW-11B) when possible, and are generated as a result of process changes and expired shelf lives. Unused chemicals are characterized as hazardous wastes based on process knowledge according to the nature of the constituents as indicated on container labels and markings, as well as manufacturer's information, including MSDS information as shown in Appendix C-2.

Flushing Solution

After antifreeze is drained from diesel generators during routine and preventative maintenance activities, as discussed above for waste stream SW-6, a weak sulfamic acid solution is used to flush the generator cooling systems. The resulting waste flushing solution (SW-12) is characterized as a hazardous waste based on analytical data indicating the presence of lead (D008) and on process knowledge because it may be acidic (D002).

Circuit Boards and Miscellaneous Equipment Components

Repair of electronic equipment at PORTS frequently generates waste circuit boards (SW-13). Waste circuit boards are characterized as hazardous wastes containing lead (D008) and silver (D011) based on process knowledge because of solder and other metallic parts on the boards. Photoreceptor drums from copy machines and various fuses from electrical equipment are characterized as hazardous wastes containing lead (D008) based on analytical data.

Cleanup and Spill Residue

Site cleanup and spill response activities generate wastes of varying character. These wastes may be environmental media containing hazardous wastes or may be used chemicals or formulations. These wastes are initially characterized based on process knowledge and, as necessary, later characterized based on analytical data. These wastes may be solid (SW-14A) or liquid (SW-14B) and could have any waste code, depending on the material spilled.

Glass Media

This waste stream (SW-16) is a combination of several historical waste streams that were composed of glass blasting media. These wastes result from very small diameter glass particles used in a sand-blasting environment to remove rust, scale, or radiological contaminants from metal equipment. Additionally, this waste stream includes used glassware derived from various sampling operations and consists of empty sample bottles, lab glassware, and used COLIWASAs. The glassware may be broken. These wastes are similar as far as media characteristics and contaminants and will require similar treatment for disposal. Analytical data indicates the presence of cadmium (D006) and lead (D008).

Metal Shavings

This waste stream (SW-17) is a combination of several historical waste streams, that were comprised of miscellaneous metal shavings or other small pieces of metals. Several operations throughout the plant site generate small metallic shavings through various machining operations such as drilling, filing, and cutting, etc. These wastes, along with the brass shell casings, are being combined due to their similarity of characteristics and contaminants. Process knowledge and analytical data indicated the presence of cadmium (D006), lead (D008), and benzene (D018).

Brick/Concrete and Masonry Wastes

This waste stream (SW-18) results from brick, concrete, and other masonry material wastes that are generated from removal of these materials as the result for spills of listed chemicals or of historical spills in operational facilities. The characteristics of the wastes will be determined on a case-by-case basis.

Miscellaneous Burnable Debris

This waste stream (SW-19) results from wood, rubber/plastic, and other burnable material wastes that are generated from the removal of these materials as the result of spills of listed chemicals or of historical spills in operational facilities. The characteristics of the wastes will be determined on a case-by-case basis.

Soil from non-ER Activities

This waste stream (SW-20) results from soil and other earthen wastes that are generated from removal of these materials as the result of spills of listed chemicals or of historical spills in operational facilities. The characteristics of the wastes will be determined on a case-by-case basis.

Contaminated Water from non-ER Projects

Contaminated waters (SW-21) result from projects other than environmental restoration project. These waters can be generated from the collection of surface water, decontamination, or rinsing of equipment at the project site. The characteristics of the wastes will be determined on a case-by-case basis.

Sludges from Groundwater, Decontamination Water, Surface Water, etc.

This waste stream (SW-22) is primarily sediments that have settled from different wastewaters that have been generated in various activities. The hazardous characteristics of this waste stream will be derived from the originating waste.

Sludges from Oils or Other Organic Liquids

This waste stream (SW-23) is primarily sediments that have settled from the different organic wastes that have been previously generated in various activities. The hazardous characteristics of this waste stream will be derived from the originating waste.

Environmental Restoration (ER)

Environmental Restoration is responsible for oversight of the RCRA Facility Investigation (RFI) and closure of inactive RCRA units at PORTS. The wastes generated as a result of these activities will commonly be managed as hazardous wastes contained in an environmental medium, such as groundwater.

Groundwater and Related Water

Environmental restoration activities often include the installation, pumping, or sampling of groundwater wells. As a result, groundwater, excess sample water, and decontamination water (ER-1) are generated and commonly treated at wastewater treatment facilities located at the X-622, X-622T, X-623, X-624, or X-625. Occasionally however, such waters must be stored due to treatment facility down time. These wastewaters are stored as hazardous wastes based on the knowledge that they may contain trichloroethylene, a spent solvent (F001), on the presumption that only degreasing activities caused groundwater contamination. Analysis has confirmed that some groundwater and related water contain 1,1,1-trichloroethane, as well as trichloroethylene and related degradation products.

PPE and Miscellaneous Debris

Personal Protective Equipment (PPE) and other similar debris such as rags and wipes become contaminated by contact with soil and water during environmental restoration and closure activities. Waste PPE, rags and wipes (ER-2) are managed as wastes contaminated with environmental media that may contain trichloroethylene, a spent solvent (F001). In addition, analysis of these wastes has found that some waste PPE, rags, and wipes contain trichloroethylene and related degradation products, as well as acetone. The source of the acetone has not been determined, but may result from environmental restoration decontamination activities.

Soils

Environmental restoration activities generate soil (ER-3) as a result of investigation and clean-up work. Soils generated by environmental restoration activities contain low levels of trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), and other related degradation products. Analysis of the soils has found that some contain acetone, trichloroethylene, and 1,2-dichloroethylene. The source of the acetone has not been determined, but may result from Environmental Restoration decontamination activities, rather than soil contamination. The presence of acetone is under investigation to confirm the source of the solvent.

Oil and Debris

Other minor wastes streams generated by Environmental Restoration include small amounts of waste oils (ER-4A) and debris (ER-4B) from the equipment used for investigation and clean-up activities. These wastes are characterized as hazardous wastes based on process knowledge because they may contain benzene (D018).

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Carbon Sludge and Spent Treatment Filters

Carbon sludge (ER-5A) is generated from the groundwater recovery and treatment facilities at PORTS, which are located at the X-622, X-622T, X-623, and X-624. The carbon sludge may contain trichloroethylene,1,1,1-trichloroethane, and related degradation products. Spent treatment filters (ER-5B) are used to remove sediments from the groundwater prior to the water entering the carbon units. These filters are managed as hazardous wastes because they include environmental media containing waste constituents that may be identifiable as spent solvent (F001) hazardous wastes. Analysis of the waste filters has also found they contain carbon tetrachloride (D019), chloroform (D022), 1,2-dichloroethane (D028), and 1,2-dichloroethylene (D029).

Additionally, spent treatment filters are occasionally generated from treating groundwater during underground storage tank closure activities. Waste filters are currently characterized as hazardous wastes because they may contain benzene (D018) as a result of oil or fuel leakage from the tanks.

Neat Trichloroethylene (TCE)

Neat TCE (ER-6) is generated from the groundwater remediation activities conducted at the X-623 and X-624 groundwater treatment facilities. This facility has an air stripper that operates in conjunction with activated carbon filter units. The air stripper produces neat (nearly pure) TCE as a waste along with the spent activated carbon (ER-5A).

Surface Water

Occasionally during the environmental restoration of historical solid waste management units, rain may fall on the contaminated soil within the area of contamination. This surface water is collected and managed as a hazardous waste because of its contact with contaminated soil. The collected surface water (ER-7) is typically classified as an F001 waste and treated at one of the activated carbon filtration units following analysis to meet the unit waste acceptance criteria.

Decontamination Water

During the environmental restoration of many historical solid waste management units, equipment is decontaminated using water and occasionally a mild detergent. The decontamination water (ER-8) is collected and treated at one of the activated carbon filtration units following analysis to meet the unit waste acceptance criteria. The decontamination water typically is classified as a F001 waste.

Brick, Concrete, and Masonry Wastes

This waste stream (ER-9) results from brick, concrete, and other masonry material wastes that are generated from removal of these materials from closure or decontamination and decommissioning activities. The characteristics of the wastes will be determined on a case-by-case basis.

Floor Sweepings, Vacuum Dust, Etc.

This waste stream (ER-10) will result from the initial cleaning of buildings or other facilities scheduled to undergo closure or decontamination and decommissioning activities. The characteristics of the wastes will be determined on a case-by-case basis.

X-100 Administration Building (100)

The X-100 Administration Building is the main office building for plant operations and also contains areas for document storage and reproduction, photography, printing, and office machine repair.

Office Machine Repair Solvents

Historically, waste isopropyl alcohol and 1,1,1-trichloroethane are generated from office machine repair activities as a result of cleaning parts and machines when servicing office equipment. These waste solvents (100-1) are characterized as ignitable (D001) hazardous wastes based on analysis and as spent solvent (F002) hazardous wastes based on process knowledge and MSDS information.

Printing Solvents Waste

Waste solvents (100-2) are generated in the cleaning of several pieces of reproduction equipment located in the office services department. Reproduction equipment includes a multi TCS System-7 with camera, multi offset printing press, multi graphic duplicator-250, and photographic equipment. Cleaning solutions and printing chemicals used on the equipment contain ethyl alcohol, petroleum naphtha, tetrachloroethylene, trichloroethylene, and methylene chloride. These waste solvents and associated wastes are characterized as hazardous wastes based on analysis that found they are ignitable (D001). Based on process knowledge and MSDS information, the waste solvents are characterized as hazardous wastes because they contain spent solvents (F002) and may contain chromium (D007), lead (D008), tetrachloroethylene (D039), and trichloroethylene (D040).

Blue Print Solution

Waste blue print solution (100-3) is generated from using aqua ammonia solution in the reproduction of engineering drawings or blue prints in the engineering records section. The waste solution is initially characterized as an alkaline hazardous waste (D002) based on process knowledge and MSDS information. Subsequent analysis (i.e., pH measurement) has indicated a large portion of this waste stream is not hazardous.

Oil

Waste oil (100-4) is generated while repairing refrigeration equipment and while draining equipment using oil-drip collection pans. These waste oils are characterized as hazardous wastes based on process knowledge because they may contain benzene (D018).

Flammable Solvents

Historically, ethyl alcohol was used to clean the rollers on the printing machine and to clean photographic equipment. Naphtha is also used for cleaning printing machine rollers. Once used, these waste solvents (100-5) are characterized as ignitable (D001) hazardous wastes based on process knowledge. An electrostatic solution is used in the diagram plotter in the electrical engineering department in the X-100. The spent solution has been determined by process knowledge to be an ignitable (D001) hazardous waste when removed from the plotter during routine maintenance.

Film/Microfilm

Waste film and microfilm (100-6) are discarded when they are no longer needed. Waste X-ray film is generated by the X-101 hospital. Waste film/microfilm/X-ray film is characterized as hazardous waste based on process knowledge because it may contain silver (D011).

Photoreceptors

During the routine maintenance performed on photocopying machines, the spent photoreceptors (100-7) are removed and managed as hazardous waste. The spent photoreceptors have been determined by analysis to be hazardous for lead (D008).

Silver Recovery Cartridges

As photographic film is developed, a small amount of silver is dissolved from the film. As the photographic solution is discharged, the solution passes through an ion exchange cartridge that removes the silver from the solution. The spent cartridges (100-9) are managed as hazardous waste due to the silver content of the cartridge.

X-101 Hospital (101)

PORTS maintains a hospital facility at the X-101. The hospital is used to conduct worker physicals and respond to health emergencies.

Silver Solution and Related Materials

X-ray development at the hospital generates spent silver solutions and related materials such as filter cartridges (101-2). These wastes are both characterized as hazardous waste based on process knowledge because of the presence of silver (D011).

X-104A Indoor Firing Range (104)

The X-104A Indoor Firing Range Building is used for the training of security forces in the use of various firearms. The firing range is adjacent to the X-104 Police Headquarters, which is the office and dispatch building for the PORTS guard force.

Cleaning Solution

Mop water is generated as a result of normal cleaning of the indoor firing range. This waste solution (104-1) is characterized as a hazardous waste based on analysis that found it contains lead (D008).

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Lead Dust/Debris, Filters, PPE

Lead dust and debris are generated from the sweeping of any lead material that may have fallen on the floor. PPE (coveralls, gloves, etc.) is generated when the X-104A facility is cleaned or when it becomes necessary to change the ventilation filters. Waste PPE is also generated when the spent lead bullets are removed from the bullet trap. The indoor firing range ventilation system consists of pre-filters and HEPA filters. As the filters become contaminated with lead dust they are removed from service. Waste dust/debris, filters, and PPE (104-2) are characterized as hazardous wastes based on analysis that found they contain lead (D008), arsenic (D004), barium (D005), cadmium (D006), chromium (D007) and heptachlor (D031).

Lead Bullets

Waste lead bullets (104-3) are recovered from the firing range, most commonly from the bullet trap. The bullets are characterized as hazardous wastes based on process knowledge because they contain leachable lead (D008).

X-326, X-330, and X-333 Cascade Process Buildings (Cascade)

The gaseous diffusion process produces enriched uranium at PORTS in the X-326, X-330, and X-333. Uranium hexafluoride (UF_6) enriched in the uranium-235 isotope is produced in the enrichment process. This creates a very harsh environment for the materials and equipment that come in contact with the UF_6, thus the process equipment must be periodically taken out of service for maintenance or repair. Prior to maintenance or repair, the equipment must be decontaminated to remove uranium and other radioactive constituents. Decontamination is performed using materials that will remove uranium without harming the equipment. The process equipment must also be cleaned after maintenance or repair to remove all contaminants that could react with the fluorinating atmosphere in the cascade process prior to reassembly of the equipment. Halogenated hydrocarbons have been used for this operation because they are compatible with the cascade equipment, and dry without leaving a residue that will react in the cascade process.

The hazardous waste-related activities performed in the process buildings in support of the diffusion processes include minor laboratory work, as well as electrical and mechanical maintenance and decontamination operations.

Gas Analyzer Wastes

Process vent gas analyzers have been used in X-326 to monitor uranium content in production equipment exhaust gases. These analyzers generated spent indicator solutions (Cascade-1) that contain ethanol and acidic liquids and are characterized as corrosive (D002) hazardous wastes based on analysis, and as ignitable (D001) hazardous wastes based on process knowledge. In addition, the X-326 and X-333 utilize sampling areas to collect small amounts of process gas for quality control testing, which is performed at the X-710 Technical Services Building. Wastes produced in these areas include spent nitric acid and acetone from sample container cleaning. These container cleaning wastes are characterized as ignitable (D001) and corrosive (D002) hazardous wastes based on process knowledge.

Solvent

Maintenance work in the cascade process buildings often involves the use of solvents for cleaning and degreasing, which results in the generation of waste solvents (Cascade-2) including: 1,1,1-trichloroethane, trichloroethylene, carbon tetrachloride, methylene chloride, tetrachloroethylene, refrigerant 113, xylene, acetone, methyl ethyl ketone, and toluene. These wastes have been characterized as ignitable (D001) and spent solvent (F001, F002, F003, F005) hazardous wastes, based on process knowledge and MSDS information. In addition, analysis confirmed these waste solvents do contain tetrachloroethylene, methylene chloride, and selenium (D010).

Decontamination Waste Solutions

Decontamination of equipment, which is required prior to maintenance activities, generates aqueous waste solutions (Cascade-3). These waste solutions are characterized as hazardous wastes based on analysis that indicate the solutions may contain chromium (D007) and lead (D008). Based on process knowledge and MSDS information, the solutions may also be acidic or basic (D002), and may contain: arsenic (D004), barium (D005), cadmium (D006), mercury (D009), selenium (D010), silver (D011), and benzene-bearing oils (D018).

Oil/Solvent

Historically, waste oils were found to contain 1,1,1-trichloroethane and other ignitable solvents as a result of equipment flushing activities; however, solvents are no longer used for this purpose. The waste oil/solvents (Cascade-4) currently in storage at PORTS are characterized as hazardous wastes based on process knowledge and MSDS information because they may contain chromium (D007), lead (D008), and benzene (D018), and because they are considered ignitable (D001) and spent degreasing solvents (F001).

Oil

In the cascade buildings, routine and emergency maintenance is performed on equipment ranging in size from small pumps to large heat transfer equipment and process converters. Maintenance activities generate waste oils from compressors and other production equipment. Waste oils (Cascade-5) have been characterized as hazardous waste based on analysis that found the waste oils contain cadmium (D006), chromium (D007), lead (D008), and mercury (D009). Based on process knowledge, the waste oils may also contain benzene (D018).

Decontamination Waste Solids

In addition to the aqueous wastes described above, decontamination operations often generate various waste solids including sludges and other solids removed from process equipment. Waste solids from decontamination (Cascade-6) are characterized as hazardous wastes because analysis found that the waste solids contain cadmium (D006). Based on process knowledge, the waste solids may contain arsenic (D004), barium (D005), chromium (D007), lead (D008), mercury (D009), selenium (D010), silver (D011), benzene (D018), methyl ethyl ketone (D035), and trichloroethylene (D040). Decontamination sludges and solids may also contain trichloroethylene, 1,1,1-trichloroethane, refrigerant-113, xylene, acetone, methyl ethyl ketone, and toluene, which are considered to be spent solvent (F001, F002, F003, F005) hazardous wastes.

Mercury and Debris

Maintenance of instruments such as manometers occasionally generates small volumes of mercury and associated materials such as broken glass and clean-up materials. These wastes, mercury (Cascade-7A) and the associated debris (Cascade-7B), are characterized as mercury-bearing hazardous wastes (D009) based on process knowledge. The historical waste stream, Cascade-7, is being maintained until the waste is properly treated and disposed.

X-ray Solutions

As part of maintenance and inspection procedures, cascade equipment is X-rayed in place to determine whether it is necessary to remove the equipment for repair or replacement. The X-ray film is developed in the cascade buildings as a contamination control procedure and to minimize delays in reporting the inspection results. The spent solutions (Cascade-8) from the development of the X-rays are similar to other X-ray development solutions (e.g., 101-1) hazardous for silver (D011), as indicated by the analytical data.

Trap Material

This waste stream (Cascade-10) consists of alumina, magnesium fluoride, sodium fluoride or similar materials from the cascade. Analytical data indicates that some of the material is hazardous for arsenic (D004), cadmium (D006), chromium (D007), lead (D008), and mercury (D009).

X-342 Feed Vaporization and Fluorine Generation Facility (342)

The X-342 feed vaporization facility is used for the sampling and refeed of UF_6 from the cascade process. This facility also contains fluorine generation equipment, also used in support of the cascade process.

Generator Scrap and Debris

Fluorine is generated onsite for process applications by an electrolytic process using potassium fluoride and hydrogen fluoride. When the solution becomes spent, the remaining sludge and liquid are removed and the generator cell is inspected prior to reuse. If necessary, the interior metallic parts and carbon arc blades are removed and become waste generator scrap (342-1). PPE, gloves, rags, and other debris are also generated by this activity. Waste fluorine generator scrap and debris are characterized as hazardous wastes based on analysis that found them to contain arsenic (D004).

Generator Solutions and Sludge

Historically, the fluorine generator cells were opened after the solution was spent and the waste solution was neutralized with lime. Waste generator solution (Decon) (342-2) and the sludge (342-3) that was previously generated in the cells are characterized as hazardous waste based on analysis that found the wastes contain arsenic (D004).

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X-343 Feed Vaporization Sampling Facility (343)

The Feed Vaporization Sampling Facility is used for feed sampling and contains seven autoclaves for vaporization of UF_6. The feed cylinders are brought into the facility, placed in the autoclaves and heated for sampling.

Parts Cleaning Solutions

Decontamination of equipment is required prior to maintenance activities, and this process generates aqueous waste solutions (343-2). These waste solutions are characterized as hazardous waste based on analysis that found the solutions contain lead (D008). Based on process knowledge and MSDS information, the solutions may also contain benzene-bearing oils (D018).

X-344 UF_6 Sampling and Shipping Facility (344)

The X-344 facility is used for sampling and shipping of enriched uranium product produced at PORTS.

Oil/Filters and Oil Debris

The autoclaves and pumps on the autoclaves contain hydraulic oil and gearbox oil that is occasionally changed. Waste oils and oil filters (344-1A, 344-1B, respectively) are characterized as hazardous wastes based on process knowledge because they may contain benzene (D018).

Solvent

Maintenance personnel uses refrigerant-113 and ethyl alcohol to clean equipment parts when performing routine equipment maintenance. Based on analysis, these waste solvents (344-2) are characterized as hazardous wastes as these solvents are ignitable (D001) and contain cadmium (D006); based on process knowledge, these solvents are spent solvent (F001) hazardous wastes. Historically, trichloroethylene, methyl chloroform and kerosene have also been used for this purpose.

Decontamination Solutions

Decontamination of equipment is required prior to maintenance activities. The process generates aqueous waste solutions (344-5). These waste solutions are characterized as hazardous waste based on analysis that found the solutions contain lead (D008). Based on process knowledge and MSDS information, the solutions may also contain benzene-bearing oils (D018).

X-530 and X-533 Electrical Switchyards (Switch)

The primary function of the X-530 and X-533 electrical switchyards is the distribution of electrical power to plant processes and facilities. The types of equipment at these facilities are transformers, circuit breakers, switchgear, busses, and synchronous condensers.

Lead Cable

Routine maintenance at the buildings generates waste lead cable (Switch-1). Based on process knowledge, the lead cable is characterized as hazardous waste due to the lead content (D008).

Oil

Maintenance activities in the switchyards also generate waste oils (Switch-2), which are characterized as hazardous waste based on analysis that found it to contain lead (D008), and based on process knowledge because the waste oils may contain benzene (D018). Waste oil from the synchronous condensers have been found to contain PCBs in excess of 50 ppm.

Switches

During routine or preventative maintenance activities on switchyard equipment, many components are replaced; these and other maintenance activities often generate waste mercury-filled switches. Waste switches (Switch-3) contain mercury (D009) and are characterized as hazardous waste based on process knowledge.

X-600 Steam Plant (600)

The X-600 Steam Plant is a coal-fired facility used to produce high temperature steam for heating and process uses at PORTS.

Solvent and Oil

Routine maintenance on the mechanical equipment at the facility has produced waste 1,1,1-trichloroethane (600-1) which was used in degreasing, as well as small amounts of waste oil

(600-2). Based on process knowledge, the waste 1,1,1- trichloroethane is characterized as a spent solvent (F001) and the waste oil is considered to be toxic (D018) because it may contain benzene.

PPE and Related Solids

Protective equipment and related debris (600-3) are generated during maintenance activities. These wastes are characterized as hazardous based on analytical data which found they often contain arsenic (D004).

X-600B Steam Plant Maintenance Building (600B)

The X-600B Steam Plant Maintenance Building is used as a storage area for small replacement parts and maintenance equipment for the X-600 Steam Plant. Maintenance crews generally perform the repair and maintenance activities in the steam plant, not in the maintenance building.

Parts Cleaning Solutions

Various aqueous cleaning agents (600B-2) are used in the cleaning of parts from the steam plant prior to maintenance of the equipment. The spent solutions have been analyzed and found to be hazardous for cadmium (D006), chromium (D007), lead (D008), and mercury (D009). Based on process knowledge and MSDS information, the solutions may also contain benzene-bearing oils (D018).

X-608B Raw Water Pump House (608)

All deep-well pumps that utilized mercury seals have been replaced with pumps using mechanical seals in the X-608B well system. Historically, wastes containing mercury have been generated.

Mercury Cleanup Materials

During well pump changes, mercury was occasionally generated due to the failure of a mercury pump seal. Mercury clean-up materials (608-1) have been characterized as hazardous wastes through process knowledge because they contain mercury (D009).

Oil

Waste oil (608-2) was periodically generated through routine maintenance operations performed on water pumping equipment. Maintenance of this equipment has generated waste oils that have been characterized as hazardous wastes through process knowledge because they contain mercury (D009) and benzene (D018).

Mercury, Oil, Water, and Sand

In 1989, the #6-B well pump mercury seal failed and released mercury into the well. Waste oil, water, and sand (608-3) were generated during the cleanup of the well; these substances are characterized as hazardous waste based on analysis that found them to contain mercury (D009).

X-611 Water Treatment Facility (611)

The X-611 Water Treatment Facility provides the plant with potable water, fire control water, as well as make-up water for the Recirculating Cooling Water (RCW) System. Water can be supplied to X-611 from the X-608 A & B Wells, X-6609 Wells, X-605G Wells, and X-611-B Lagoon.

Oil and Filters

Routine maintenance operations performed on water treatment-related equipment periodically generate waste oil and waste oil filters. Based on process knowledge, waste oil and oil filters (611-1) are characterized as hazardous wastes because they may contain benzene (D018).

Mercury

Instrument maintenance activities occasionally generate waste mercury (611-2); waste mercury (D009) is characterized as hazardous waste based on analysis.

X-616 Liquid Effluent Treatment Facility (616)

The X-616 Facility was originally designed to remove chromium from recirculating cooling water via a chemical reduction. A chromium-based corrosion inhibitor was used in the recirculating cooling water until 1990 and, since the conversion to a phosphate-based corrosion inhibitor, chromium-bearing wastes are no longer produced at this facility.

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Oil and Filters

The maintenance of wastewater treatment equipment occasionally generates waste oil and filters (616-1). Waste oil and filters are characterized as hazardous waste based on process knowledge because they may contain benzene (D018).

Soil/Sludge, Filter Cloth, and PPE

Historic chromium-bearing wastes that are in storage are the result of spills or treatment of cooling water or precipitate sludge at the facility. Treatment and clean-up wastes include contaminated soil and the spilled waste sludge containing chromium (616-2) as well as spent treatment filters and waste PPE (616-3). Waste soils, sludges, filters, and PPE are characterized as hazardous wastes based on process knowledge and analytical data because they contain chromium (D007).

X-626, X-630. X-633, and X-6000 Pump Houses and Cooling Towers (Pump)

The recirculating cooling water systems at the X-626, X-630, and X-633 are for the removal of the heat of compression generated in the diffusion process, and consist of pumps, cooling towers, and associated piping to the various cascade process buildings.

Mercury Spill Cleanup

Manometers in the pump houses are periodically serviced or removed. This maintenance, as well as mercury spill cleanup, generates mercury wastes (D009) (Pump-1) that have been characterized as hazardous wastes based on process knowledge.

Cooling Tower Curtains

In order to improve the efficiency of the cooling towers during adverse weather conditions, large canvas curtains are placed on the towers. These curtains are periodically discarded. Waste canvas cooling tower curtains (Pump-2) are characterized as hazardous waste because analysis has found them to contain chromium (D007).

Oil

Various types of oil are used in the pump houses and cooling towers. Waste oils (Pump-3) generated from this use are characterized as hazardous waste based on process knowledge because they may contain benzene (D018). Waste oils previously generated in X-6000 occasionally contained 1,1,1-trichloroethane (F001) from cleaning and flushing activities.

X-700 Converter Maintenance and Chemical Cleaning Building (700)

The X-700 Converter Maintenance and Chemical Cleaning Building is used for equipment maintenance support for non-radioactive or low-level radioactively contaminated equipment from the gaseous diffusion process.

Chemical Cleaning Side

The purpose of this operational area is to clean various equipment parts that have a low probability for being contaminated with radionuclides. This area also serves as the home base for the field chemical cleaning personnel who perform cleaning and decontamination activities on materials with a low probability of being radioactively contaminated.

Chromic Acid Tank Closure Waste

Chromic acid tank closure waste (700-1) was generated by the closure of Tank #7. Past operations performed in this tank included bright dipping of aluminum parts. A variety of sludges and miscellaneous solids were generated in closure activities and characterized, based on process knowledge and MSDS information, as wastewater treatment sludge from an electroplating process (F006). Analytical data indicates the primary contaminant of concern is chromium (D007).

Cleaning Tank Solution

Cleaning tank solution containing trichloroethylene was used by activities or projects that are no longer required by plant operations. Waste cleaning tank solution (700-2) was generated from the cleaning out of the inactive vapor degreaser, and is characterized as a spent solvent (F001) hazardous waste based on process knowledge and analytical data.

Clean-up Debris

Waste clean-up debris (700-3) is generated from cleaning the basement floor and general operating area surrounding and beneath the cleaning tanks. Waste clean-up debris may be contaminated with trichloroethylene from past degreasing operations and from groundwater containing trichloroethylene in the basement sump area. Based on process knowledge and analytical data, the waste is managed as a spent solvent (F001) hazardous waste.

Carbon Sludge

Historically, waste activated carbon sludge (700-4) was generated from groundwater treatment activities that took place in the X-700. Based on process knowledge, the sludge is managed as a hazardous waste because it was derived from groundwater that contained trichloroethylene, which is believed to have been derived from spent solvent (F001) that may have contaminated the groundwater.

Neutralization Pit Sludge

Historically, neutralization pit sludge (700-5) was generated from the cleaning out of a neutralization pit that accepted the discharge from the immersion cleaning tanks, which are located in the eastern portion of the building. The sludge is characterized as a hazardous waste through process knowledge and analytical data as spent trichloroethylene degreasing solvent (F001).

Fuels or Oil with Water

Waste fuels or oil with water (700-6) are generated from field activities involving the draining of diked fuel storage areas after inclement weather. The water is containerized if a visible sheen is apparent on its surface. Waste fuels or oil with water are characterized as hazardous waste through process knowledge and MSDS information because the water may contain lead (D008) and benzene (D018).

Caustic Solutions

Waste caustic solution (700-7) is generated by cleaning various ferrous metal parts. The corrosive (D002) hazardous waste is characterized based on process knowledge and MSDS information indicating the presence of sodium hydroxide. Analytical data indicates that the waste is also hazardous for metals.

Nickel Stripping Solutions

Nitric acid is used to strip nickel from the surface of nickel plated steel parts prior to the reworking of these parts. Waste nitric acid stripping solution (700-8) is characterized as an acidic (D002) hazardous waste based on process knowledge and MSDS information.

Solvent Solution

Waste solvents (700-9) containing methylene chloride and tetrachloroethylene may be generated during equipment degreasing. Based on process knowledge, these waste solvents are characterized as ignitable (D001), spent solvent (F001, F002, F003) hazardous wastes.

Oil

Waste oil (700-10) is generated by the draining of oil reservoirs on various equipment. The waste oil is characterized as hazardous waste because analysis has found it to contain chromium (D007) and lead (D008) and, based on process knowledge, it may contain benzene (D018).

HEPA Filters

Waste HEPA Filters (700-11) are generated by the change-out of filters on mercury vacuum cleaners. The vacuum cleaners are used by the field cleaning crew to collect small spills of mercury at various plant locations. Waste filters are characterized as hazardous waste based on process knowledge due to the presence of mercury (D009).

Tank Residue

This waste is generated by the cleaning out of various immersion cleaning tanks that held groundwater. Based on process knowledge and because the groundwater may have contained waste trichloroethylene, the waste tank residue (700-12) is managed as a spent solvent (F001) hazardous waste.

Maintenance Side

This area is used as a weld shop and converter maintenance area. Activities in this area are primarily related to welding, cutting, drilling, grinding, and buffing.

Oil

Waste oil (700-13) is generated from draining oil reservoirs on various pieces of equipment and is characterized as hazardous waste based on process knowledge due to the possible presence of benzene (D018).

Mercury Canisters

Respiratory equipment is required when entering areas where the breathing atmosphere is contaminated with various chemicals, including mercury. When the atmosphere is determined to contain elevated levels of mercury, "mer-sorb" canisters are utilized to provide safe working conditions. When spent, these canisters (700-14) are collected and managed as hazardous waste based on process knowledge [i.e. the presence of mercury (D009)].

X-705 Decontamination Building (705)

The X-705 Decontamination Building is a support building for maintenance activities associated with equipment removed from the cascade system and other processes that handle uranium, such as the X-700, X-710 and X-720. Its purpose is to decontaminate, clean and/or recondition process and auxiliary equipment prior to further maintenance activities or reuse. This building also contains decontamination and rinse solutions treatment systems.

Typically, process equipment is disassembled inside the X-705. Large pieces of equipment are decontaminated in mechanized spray booths or in a self-contained annex on the south side of the building. Smaller pieces of equipment are cleaned in special sinks or tables, while oily equipment is cleaned in a dip tank or on a floor pan. Auxiliary equipment such as gas cylinders or polybottles are also cleaned and reconditioned prior to reuse.

Decontamination is usually accomplished through the use of various wet methods that employ acid or alkaline solutions. These solutions are processed through a liquid-liquid extraction system to recover the uranium as an oxide. Liquid raffinate waste from this process is neutralized and filtered to produce a sludge cake, and a clear filtrate stream that is processed through ion exchange columns for removal of technetium and through the X-700 biodenitrification system for removal of nitrates prior to discharge to the sewage treatment plant.

Dilute rinse solutions are processed through a microfiltration system that produces a sludge cake and a clear filtrate solution. The filtrate is discharged to the sewage treatment plant.

Alkaline Solutions

Grease, which interferes with recovery and microfiltration, is removed by placing parts in an alkaline (sodium hydroxide) solution. The spent solution (705-1) is characterized as a corrosive (D002) hazardous waste based on MSDS information and, based on process knowledge, may also contain cadmium (D006), lead (D008), and benzene (D018).

Heavy Metal Sludge

Waste from the extraction columns is processed through a filter to remove precipitated heavy metals. Waste heavy metal sludge (705-2) from this process is characterized as hazardous waste based on analysis that shows it to contain cadmium (D006) and, based on process knowledge, the sludge may also contain lead (D008) and mercury (D009).

Microfiltration Sludge and Filters

All solutions containing low uranium concentrations are processed through microfiltration. This process results in a water that is discharged to the sewage treatment facility and a filter press sludge (705-3), which is characterized as hazardous waste because analysis has found it to contain cadmium (D006) and, based on process knowledge, the sludge may also contain lead (D008). Waste microfiltration filters (705-3) are also generated that are characterized as hazardous wastes based on process knowledge because they may contain cadmium (D006) and lead (D008).

Oil/Solvents

Vacuum pumps are drained and disassembled yielding waste oil (705-4). Waste oil is characterized as hazardous waste based on process knowledge that it may contain benzene (D018). Waste oil containing trichloroethylene and 1,1,1-trichloroethane, which equipment cleaning and flushing generates, is characterized as a spent solvent (F001) hazardous waste based on process knowledge.

Uranium Recovery Solvent

Uranium is recovered from nitrated solution by liquid extraction. The solvent phase of this process is made up of tri-butyl phosphate and mineral spirits or stoddard solvent. Based on process knowledge, spent solvent (705-5) from this process is characterized as a corrosive (D002) hazardous waste that contains cadmium (D006), lead (D008), and mercury (D009), as indicated by analytical data.

Ion Exchange Resin

The filtrate from the heavy metal process is passed through ion exchange columns to remove technetium. Hydroxyl form anionic resin is used to capture the technetium; based on analysis, spent resin (705-7) is characterized as hazardous waste due to the presence of mercury (D009).

Mercury Waste

Occasionally, the disassembly of manometers and other mercury-bearing equipment and the cleanup of associated spills generates mercury in the X-705. Such mercury wastes (705-8) are characterized as hazardous wastes based on process knowledge due to the presence of mercury (D009).

Bag Filters

In-line bag filters are used to remove suspended solids and oils from solutions flowing into recovery or microfiltration. When plugged, waste bag filters (705-9) are discarded and characterized as hazardous waste through process knowledge because they may contain benzene (D018), cadmium (D006), and lead (D008).

Incinerator Ash

Containers of ash and debris were generated in the closure of the X-705 Incinerator. This historic incinerator ash waste (705-10) is derived from spent trichloroethylene waste and is characterized, through process knowledge, as a spent solvent (F001) hazardous waste that may contain various toxicity characteristic metals (D004 through D008, D010, D011).

Filter Table Gunk

Some uranium-bearing solutions are filtered through a diatomaceous earth medium to remove suspended solids. The resultant filter table "gunk" (705-11) is characterized as hazardous waste because analysis has found it to contain mercury (D009).

Laboratory Waste

The process laboratory supports the decontamination building operation, by providing uranium analysis at several different stages of the process. A uranium shake-out procedure was used that utilized tributylphosphate and mineral spirits, which generated an acidic waste (D002) (705-12) that is being stored at PORTS and is characterized as hazardous waste based on process knowledge. The uranium shake-out procedure currently being used is a bromo-padap developed procedure that incorporates methanol and is managed as an acidic hazardous waste. Waste (705-12) from the bromo-padap procedure is characterized as an acidic (D002), ignitable (D001), spent solvent (F003) hazardous waste based on process knowledge. And, in addition, may contain chloroform (D022), which is used in the determination of technetium. Tributylphosphate and mineral spirits remain constituents of lab organics due to their continued use in recovery as extraction solvents. An alternative shake-out procedure uses trioctylphosphine oxide and n-heptane when phosphates and citrates are present in the solution. Waste (705-12) from this procedure is characterized as an ignitable (D001) hazardous waste based on process knowledge.

Oil & Grease Filter Cake

Small parts are often degreased with sodium hydroxide or soap solution. The resulting solution is then processed through the oil and grease removal unit where the grease is removed as a filter cake (705-15). The filter cake is characterized as hazardous waste through process knowledge because it may contain benzene (D018) and metals including cadmium (D006), chromium (D007), and lead (D008).

Grease

Various cascade equipment is brought to the X-705 decontamination facility for cleaning prior to maintenance. The equipment can vary in size from small oil pumps to large UF_6 compressors with lubricated bearings. The grease and oil residue (705-16) in this equipment becomes contaminated with dust or dirt, UF_6, and metal particles. Analysis has shown the grease to be hazardous for lead (D008) and benzene (D018).

X-710 Technical Services Building (710)

The X-710 Laboratory is responsible for providing analytical services for PORTS. These services include preparing controls and standards, assuring that various raw materials meet specifications, and providing general analytical services for environmental, safety, and health samples and process support analysis. As is typical with analytical laboratories, a large variety of wastes are generated in small quantities. A brief description of the various laboratory functions and the generated wastes follows. The controls and standards laboratory is responsible for the preparation of controls and standards for all other laboratories in the building. Standards are prepared using various acids and caustics, and may contain various Tc metals depending on the standards being processed.

The process services laboratory is responsible for performing specification analysis on coal, various oils, lime, and process gas (UF_6) samples. Materials used in the analyses include various acids and caustics, halogenated and nonhalogenated solvents, and ignitable solvents.

The materials sampling and testing laboratory is responsible for the maintenance of UF_6 sampling systems, the inspections of UF_6 cylinders, and the decontamination of UF_6 containers, valves, and traps.

The uranium analysis laboratory is responsible for determining the uranium content of various solutions and solids and for preparing solutions for spectrographic analysis. Materials used in these analyses are various acids, caustics, and nonhalogenated solvents.

The radiochemistry laboratory performs radiochemical and isotopic analyses on solid and liquid samples. In performing these analyses, various acids are used to dissolve the samples and acetone, xylene, cyclohexane, and amyl acetate are used in the analytical process. The primary concern of the spectroscopy and analytical support laboratory is the determination of metals concentrations in samples submitted from other laboratory groups and from across plant site.

The organic analytical services laboratory is responsible for conducting organic constituent analysis on environmental, industrial hygiene, and waste samples. Hexane, methylene chloride, methanol, propanol, refrigerant-113, ethyl ether, and acetone are used as extraction fluids and/or carriers in most of the required analyses.

The material and chemical technology department performs all sampling and analysis on process vents, performs extractions for TCLP analysis, and tests a wide variety of metals and commercial products to determine suitability for site uses. Mechanical testing of valves and equipment is conducted by the chemical technology department. Testing is also performed on epoxies, resins, coatings, and metals using acids, caustics, halogenated and nonhalogenated solvents, and various other aqueous and organic solutions.

One section of the material and chemical technology department performs mechanical testing on process and other equipment throughout PORTS. Typical wastes consist of waste oils and small amounts of 1,1,1-trichloroethane (TCA) used to clean metal components prior to testing.

The remaining sections of the material and chemical technology department perform analysis on asbestos samples and perform X-ray diffraction and X-ray fluorescence analysis on a wide variety of samples. Various acids, nonhalogenated solvents, and photographic materials are used in the analytical procedures.

The laboratory services group maintains and repairs all electronic, electrical, and mechanical systems in the X-710 laboratory. This group also fabricates special laboratory systems and equipment as necessary.

The environmental/industrial hygiene analytical services laboratories group is responsible for providing analytical services on all environmental and industrial hygiene samples. The primary function of the group is to determine the various anions, such as chlorides and sulfates, and the very low levels of radiochemical constituents.

Wastes generated from the numerous laboratories in X-710 include a large number of small volume, corrosive, solvent-bearing and metal-bearing wastes. Wastes are routinely managed in small containers at satellite accumulation points in the laboratories and are transferred to a 90-day accumulation area where the wastes are placed in lab packs or are combined with similar materials in drums.

Based on the waste generation discussion provided above for each of the laboratories, wastes stored from the X-710 may include the following streams.

Oil/Solvents

Routine maintenance and laboratory equipment fabrications operations also generate hazardous wastes in support of all laboratory operations in X-710. Wastes generated from these activities include waste oils (710-1) that are characterized as hazardous waste through process knowledge because they are ignitable (D001) and may contain benzene (D018). Waste oils sometimes also contain trichloroethylene or 1,1,1-trichloroethane from degreasing and flushing of equipment and are characterized as spent solvent (F001) hazardous wastes. Analysis of waste oils has found that chromium (D007) and lead (D008) are present. Analytical procedures on oils also result in a waste which contains methylene chloride (F002) and carbon disulfide (F005).

Acids/Bases

As described above, a variety of waste acids (710-2A) and bases (710-2B) (including hydrochloric, sulfuric, phosphoric, and nitric acids and sodium hydroxide) are generated in the X-710 facility. Waste stream 710-2 is maintained for current waste in storage with a pH between 2 and 12.5, and in some cases, until reclassification to 710-2A or 710-2B can occur. Based on analysis, the wastes contain cadmium (D006) and chromium (D007). Through process knowledge and MSDS information, these wastes are also characterized as corrosive (D002) hazardous wastes that may contain arsenic (D004), barium (D005), lead (D008), mercury (D009), selenium (D010), and silver (D011).

Solvents

A variety of spent solvents (710-3) are generated in the X-710 laboratories that include: refrigerant-113, trichloroethylene, and 1,1,1,-trichloroethane; acetone, methanol, xylene, ethyl ether, and n-butyl alcohol; toluene, pyridine, and methyl ethyl ketone; mineral spirits, heptane, ethanol, and various other alcohols; and chloroform. Based on process knowledge and MSDS information, these wastes contain arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), selenium (D010), and silver (D011) and are characterized as spent solvent (F001, F002, F003, F005) and toxic (D018, D022, D035, D038 and D040) hazardous wastes. In addition, analysis of the spent solvents has found that they may be ignitable (D001).

Cyanide Bearing Solutions

Analytical procedures generate wastes which contain cyanide compounds (710-5) and are characterized as hazardous for reactivity (D003). Waste electrostatic solutions from the X-100 are also included in this waste stream. Analytical data has also shown that this waste stream may contain lead (D008) and selenium (D010).

Machine Coolant

Metal processing and machining equipment in the X-710 laboratory uses an oil/water based coolant to cool the machine and metal parts. The spent coolant (710-6) is managed as a hazardous waste because analysis has shown it to contain lead (D008) above the regulatory limit. Based on process knowledge and MSDS information, the solutions may also contain benzene-bearing oils (D018).

Mercuric Nitrate/Mercuric Sulfate Solutions

Mercuric nitrate solutions were used in the analytical laboratory to determine the chloride content of water. Based on process knowledge, the spent solutions (710-7) were classified as hazardous waste because of the mercury content (D009). A new laboratory procedure has been developed, and these solutions are no longer generated.

Acetone

Acetone is used in the laboratory to clean and dry laboratory glassware and minimize cross-contamination of chemicals. Spent acetone (710-8) is managed as an ignitable (D001) solvent waste (F003). This waste stream is minimized by reusing the acetone until it is no longer effective for cleaning and drying applications.

Arsenic Trioxide Solution

Arsenic trioxide solutions were used to prepare standard solutions containing various concentrations of arsenic. These solutions would become waste (710-9) if the shelf life of the solution were exceeded following preparation. The waste identification code is P012 for the unused solutions and D004 for those solutions that were used in the analytical process.

Rags, Wipes and Laboratory Refuse

The analytical laboratory uses rags and wipes to clean spilled solutions and to wipe off the sides of glassware to prevent cross-contamination. Additionally, the plastic tips from automatic pipettes and other disposable materials and equipment are placed into this waste stream (710-10). The waste identification code will be dependent on the work being performed and analytical data, where available. Typical waste ID codes may include metal or solvent characteristic codes (D004 - D043) and spent solvent codes (F001 - F005).

X-720 Maintenance and Stores Building (720)

The X-720 is the primary maintenance and storage facility at PORTS. The building contains a variety of craft shops to support plant operations.

Instrument Shop

The instrument shop is used for disassembling, cleaning, repairing and reassembling all instruments from PORTS.

Oil

Waste lubrication oils (720-1) are generated in the cleaning and repair of equipment. Waste oils are characterized as hazardous wastes based on analysis that has found the oils contain barium (D005), cadmium (D006), chromium (D007), and lead (D008), and through process knowledge as due to the possible presence of benzene (D018).

Silver Solder Slag

The slag (720-2) from the silver solder process of fabricating pigtails is characterized as hazardous waste through process knowledge and MSDS information since it contains silver (D011).

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Mercury

Manometers from PORTS are dismantled and cleaned, and the waste or spilled mercury and mercury-contaminated materials (720-3) are characterized as a D009 hazardous waste, based on analysis and MSDS information.

Solvent

Spent 1,1,1-trichloroethane (720-4) is generated from maintenance activities involving equipment cleaning and degreasing. The waste 1,1,1-trichloroethane is characterized as a spent solvent (F001, F002) hazardous waste based on process knowledge.

Plating Solution

Small parts used to connect instruments to production equipment require a nickel plating to prevent corrosion from UF_6. Currently, nickel plating is performed using an electroless process. Waste nickel plating solution (720-5) is occasionally generated and is characterized as hazardous waste through process knowledge and MSDS information because it is acidic (D002).

Cyanide Plating Solutions

Historically, the small plating process in the instrument shop involved the use of cyanide solutions containing metals. Waste plating solutions (720-6) from the cyanide process are characterized through process knowledge and MSDS information as a reactive (D003) waste plating bath (F007) hazardous waste that may contain chromium (D007) and silver (D011).

Cleaning Solutions

Before plating in the electroless process, parts are cleaned using compounds containing soap, water, isopropyl and ethyl alcohols, and 1,1,1-trichloroethane. Wastes (720-7) from parts cleaning are characterized through process knowledge as ignitable (D001) and spent solvent (F001) hazardous wastes.

Oil/Solvents

Degreasing solvents and lubrication oils are generated in the cleaning and repair of equipment. Spent 1,1,1-trichloroethane (F001) mixed with oil (720-8) that may contain benzene (D018) is generated as a result of equipment flushing and is characterized as hazardous waste through process knowledge. In addition, analysis of the spent solvent/oil has found it to contain cadmium (D006), chromium (D007), lead (D008), mercury (D009), and selenium (D010).

Seal Shop

The seal shop is responsible for rebuilding, reassembly, and precision machining of seals for the compressors used in the cascade operations.

Acetone

After machining, compressor seals are dipped in acetone to remove any foreign particles. Based on process knowledge and MSDS information, waste acetone (720-10) is managed as an ignitable (D001) spent solvent (F003) hazardous waste that may contain cadmium (D006), chromium (D007), and lead (D008).

Kerosene and Oil

The seal shop uses kerosene as a cleaner in precision machining. Based on process knowledge and MSDS information, waste kerosene (720-11) may be ignitable (D001) and may contain chromium (D007) and lead (D008), as well as benzene (D018) resulting from oil in the waste kerosene.

Compressor Shop

The compressor shop deals solely in the rebuilding of process multi-stage compressors for the cascade process.

Spent Solvents

Waste 1,1,1-trichloroethane (720-12) is generated in the shop from cleaning compressor parts. Based on process knowledge and MSDS information, the waste 1,1,1-trichloroethane is characterized as a spent solvent (F002) hazardous waste.

Degreaser Sludge

The compressor shop utilizes a 1,1,1-trichloroethane vapor degreaser that is cleaned periodically. Cleaning of the degreaser results in the generation of sludge containing spent 1,1,1-trichloroethane. The degreaser sludge (720-13) is characterized through process knowledge and MSDS information as a spent solvent (F001) hazardous waste that may contain benzene (D018).

Machine Shop

The function of the machine shop is to machine parts for close tolerances through boring and machining processes and to fabricate new parts from bar stock supplies.

Machine Coolant/Oil

Machinery in the machine shop uses a water-based coolant for the cooling of parts and lathes, grinders, chippers, boring machines, and lapping machines. Periodically, a coolant waste (720-15) is generated by the machinery that contains oil as a result of cross contamination during the machining process. Waste coolant/oil is characterized as hazardous waste because analysis has shown it to contain cadmium (D006) and lead (D008). Based on process knowledge, waste oil in the coolant may contain benzene (D018).

Oil

Waste lubricating oil (720-16) for the previously mentioned machinery is generated from scheduled changes. Waste oil is characterized as a hazardous waste through process knowledge because it may contain benzene (D018).

Grinding Sludge

The grinders in the shop have a collection basin for sludge that is created in the process. This basin is periodically cleaned and the resulting waste sludge (720-17) is characterized as hazardous waste on the basis of process knowledge that indicates the presence of cadmium (D006) and lead (D008).

Electric Shop

The electric shop is primarily used for oil testing and electric motor repairs.

Spent Solvent

Xylene is used in the cleaning process of small motors. The cleaning process generates spent xylene (720-19), which is characterized through analysis as an ignitable (D001) hazardous waste and a spent solvent (F003) hazardous waste based on process knowledge.

Oil/Test Solution

Waste test oil, solvents and associated debris are periodically generated from moisture testing of oils and dielectric fluids from transformers and other electrical equipment. This waste stream (720-20) consists of isopropyl alcohol, chloroform, methanol, pyridine, toluene, methyl ethyl ketone, and lubricating oil. The waste test oils and solvents are characterized as hazardous waste based on analysis that found the waste to be ignitable (D001); through process knowledge and MSDS information, the waste was determined to be a toxic (D018, D022, D035, D038) and spent solvent (F002, F003, F005) hazardous waste.

Hydrostatic Test Shop

The function of this shop is to hydrostatically test pressure vessels and relief valves.

Lead Seals

Waste lead seals (720-21) are generated from pressure relief valve testing. The waste seals are characterized as hazardous waste based on process knowledge and MSDS information because they contain lead (D008).

Silver Plating Compound

In the hydrostatic pressure testing of vessels and other equipment that takes place in the hydrostatic test shop, it is often necessary to attach various tubing and instrument lines to the item being tested using a silver plating compound. During disassembly at the conclusion of the test, waste silver plating compound (720-22) is generated. This waste is characterized as a hazardous waste based on process knowledge and MSDS information because it contains silver (D011).

Motor Shop

The motor shop is used for the repair, rewinding, and cleaning of electric motors.

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Kerosene and Oil

Cleaning activities in the motor shop generate waste kerosene and oil (720-23). Based on process knowledge, the waste kerosene/oil is ignitable (D001) and the waste oil may contain benzene (D018). Historically, this waste stream also contained trichloroethylene (F001).

Motor Cleaning Solution

The motor shop operates a spray booth to clean motors in preparation for maintenance or repair. The motor wash and rinse water generated in the spray booth is contained in an 800-gallon, stainless steel container until it can be processed through the X-705 microfiltration system after analytical results are received. Shutdown of the microfiltration process may necessitate storage of this material in the stainless steel container in X-7725 until it can be processed at the X-705. Based on process knowledge, potential constituents of the wash and rinse water solution include grease, iron, copper, nickel, zinc, and chromium, and small amounts of oil. The waste cleaning solution (720-24) is characterized as hazardous waste because analysis has found it to contain cadmium (D006) and lead (D008).

Paint Shop

The paint shop includes a sign facility and paint booth facilities, and also contains materials and equipment for painting applications plant-wide.

Booth Water

Waste booth water (720-26) is generated from cleaning out the paint booth and is characterized as hazardous waste based on analysis that found it to contain cadmium (D006), chromium (D007), and lead (D008), and through process knowledge because it may contain methyl ethyl ketone (D035) and toluene (F005).

Cement Dust

The paint shop may paint and/or seal any onsite building floor. Before this can be done, the floor must be stripped to remove the previous sealant/paint. PORTS uses a machine called a "Blas-Trac" that not only removes the sealant/paint, but also removes small amounts of the concrete floor. These chips/dust (720-27) may be characterized as hazardous waste through process knowledge that indicates the potential presence of heavy metals including chromium (D007) and lead (D008).

Paints and Thinners

The paint shop produces a primarily liquid waste stream from using mineral spirits, lacquers, and/or solvent-containing thinners to clean paint from brushes, rollers and other equipment used by the paint shop. These thinners may contain constituents including: methylene chloride, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, methanol, xylene, toluene, and methyl ethyl ketone. Based on process knowledge and MSDS information, the waste solvents and paints (720-28) have been characterized as ignitable (D001) and spent solvent and toxic (F002, F003, F005, D035) hazardous wastes, as well as toxic for lead (D008). In addition, analysis of the wastes has found that the waste solvents and paints contain cadmium (D006), chromium (D007), and lead (D008). Waste latex paint (720-28B) is hazardous for lead (D008).

Paint Sludge and Solids

Waste paint sludge and solids (720-29) are periodically generated from the cleaning out of water-based spray booths and are characterized as hazardous wastes through process knowledge due to the presence of methyl ethyl ketone (D035), cadmium (D006), chromium (D007), and lead (D008).

Valve Shop

The valve shop is used to tear down, repair, and reassemble pumps and valves of various sizes.

Oil

Waste vacuum pump oil and waste lubricating oils (720-31) are generated in the maintenance of a variety of pumps and have been characterized as hazardous wastes based on analysis that found that the oils contain cadmium (D006) and mercury (D009). In addition based on process knowledge, the oils may contain benzene (D018). Some of the oils have also been characterized as spent solvent (F001) hazardous wastes through process knowledge and MSDS information because they contain 1,1,1-trichloroethane from the flushing of the pumps.

Refrigeration Shop

The function of this shop is to service instrument lines and refrigeration equipment.

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Parts Cleaning Solution

SX-11/sulfamic acid is used in the X-720 maintenance facility for the cleaning and removal of scale from instrument lines and refrigeration equipment. When this solution becomes spent (720-34), it is managed as a hazardous waste due to the low pH (D002). The SX-11 is a commercially available product containing phosphoric acid and sulfamic acid. The use of this product is being phased out in favor of a sulfamic acid solution because the phosphoric acid presented problem in treatment and disposal. Small quantities of this waste will be generated as the remaining SX-11 is used.

Mixed Acids

Various acids (720-35) are used in the instrument shop for the cleaning of process instrument lines. The acids include hydrochloric acid, sulfuric acid, and acetic acid in diluted concentrations. Although dilute, the pH of the solutions is less than 2.0 (D002).

X-750 Garage (750)

The X-750 Garage repairs, inspects, and performs preventative maintenance on vehicles and mobile equipment in use at PORTS.

Oil

Various grades and weights of both motor and lube oil wastes (750-1) are generated from routine maintenance operations on a wide variety of cars, trucks, vans, carts, and other mobile equipment in use at the plant. Waste oils from the shop are characterized as hazardous waste since analysis has found them to contain cadmium (D006), chromium (D007), lead (D008), and process knowledge indicates they may contain benzene (D018). Historically, waste oils have contained cleaning and flushing solvents including spent 1,1,1-trichloroethane, tetrachloroethylene, methylene chloride, xylene, ethyl ether, cresylic acid, methyl ethyl ketone, and toluene. Waste oils mixed with solvents from the X-750 Garage remaining in storage at PORTS have been characterized as hazardous waste based on process knowledge and MSDS information because they contain ignitable (D001) spent solvent hazardous wastes (D026, D035, D039, F001, F003, F004, F005) and may contain cadmium (D006), chromium (D007), and lead (D008). Currently, spent solvents and waste oils generated in the X-750 Garage are segregated.

Filters

Waste fuel and oil filters (750-2) that are generated in the X-750 Maintenance Shop are characterized as hazardous wastes through process knowledge because they may contain benzene (D018).

Solvents

Spent solvent wastes that were formerly combined with waste oils (see waste stream 750-1 discussion) are now managed as separate wastes (750-3). Spent solvent wastes commonly contain methylene chloride, 1,1,1-trichloroethane, tetrachloroethylene, xylene, and methyl ethyl ketone. The solvent wastes may also contain small amounts of gasoline, diesel fuel, and oil resulting from cleaning and flushing activities. Waste solvents are characterized through process knowledge and MSDS information as hazardous wastes because they are ignitable (D001) and contain spent solvents (F001, F003, and F005) and may also contain benzene (D018) as a result of gasoline or oil in the waste. Analysis has confirmed that the waste solvents are ignitable (D001) hazardous wastes.

Gasoline/Diesel Fuel

Used fuel (750-4) is generated as a result of maintenance of vehicles and mobile equipment. Used fuel is generated or used as a solvent during oil changes, engine overhauls, and other mechanical work at the garage. Used fuel is characterized as a hazardous waste because it is ignitable (D001) and may contain benzene (D018).

Antifreeze

Used antifreeze (750-5) is generated as a result of maintenance of vehicles and mobile equipment when drained from vehicle cooling systems at the garage. The used antifreeze is characterized as hazardous waste based on analytical data that indicates the presence of selenium (D010).

X-752, X-744G(R), and X-744G(U) Container Storage Units (Stor)

The X-752, X-744G(R), and X-744G(U) units are former hazardous waste storage areas. The facilities were certified closed on 01/31/95, 04/10/95, and 02/07/96, respectively.

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Solid and Liquid Clean-up Wastes

Closure activities generated wastes that have been characterized on the basis of process knowledge, knowledge of the waste spill, and/or analysis, as appropriate. The wastes generated could contain any listed or characteristically hazardous waste that was stored in the area (Stor-1).

X-760 Chemical Engineering Facility (760)

The X-760 is the chemical engineering facility in which bench-and pilot-scale studies are conducted in support of the X-710 activities. In essence, the X-760 Facility provides space for large-scale investigations that cannot be conducted in the X-710.

Acetone Still Bottoms/Solvents

In the mid 1980s, a pilot scale study was conducted in the facility to determine the feasibility of acetone distillation in uranium-bearing wastes. Waste acetone used in the study was from decontamination and maintenance operations in the cascade process. The study, which investigated the possibility of separating acetone from radionuclides and other contaminants, generated spent solvent-containing still bottoms that are characterized though process knowledge as ignitable (D001) spent solvent (F003) hazardous waste (760-1). Analysis has confirmed that the still bottoms are ignitable (D001) hazardous wastes and also found that the still bottoms contain chromium (D007) and lead (D008), believed to have resulted from the cleaning of metal parts, solder, and chrome-plated parts. Excess spent acetone from the study is also characterized through process knowledge as an ignitable (D001) spent solvent (F003) hazardous waste (760-1).

UF_6 Analyzer Still Bottoms

In the late 1980s, a bench-scale study was performed to determine the feasibility of ethanol distillation in uranium-bearing wastes. Waste ethanol used in the study was from the UF_6 gas analyzers in the cascade process. The study generated still bottoms (760-3) that contain ethanol and are characterized as ignitable (D001) hazardous wastes through process knowledge.

Sodium

PORTS conducted a pilot-scale treatability study in the early 1980s to assess the feasibility of treating PCBs with sodium metal. As a result of the study, waste sodium metal (760-4) was generated and is characterized as a reactive hazardous waste (D003) through process knowledge.

X-770 Mechanical Testing Facility (770)

The X-770 mechanical testing facility, which has been closed for several years, was used as a test loop for investigating technological improvements for the cascade process equipment.

Mercury Waste

Mercury waste, elemental mercury (770-1A), and mercury contaminated debris (770-1B) were generated from the clean-up of mercury diffusion pumps. Mercury waste was also generated when brass fittings on manometers corroded and failed. This waste was identified as a hazardous waste through process knowledge because it contained mercury (D009). The historical waste stream, 770-1, is being maintained until the waste is properly treated and disposed.

X-1000 ADMINISTRATION BUILDING (1000)

The X-1000 administration building is an office building for plant management. It also contains areas for document storage and reproduction, video tape production capabilities, and locker and shower facilities for the plant security force.

Oil

Waste oil (1000-1) is collected when maintenance is performed on the hydraulic elevator and on the air-conditioning and ventilation equipment. These waste oils are characterized as hazardous wastes based on process knowledge because they may contain benzene (D018).

X-7725 Container Storage Unit (7725)

This building was used for the assembly and/or reassembly of centrifuges for the gas centrifuge enrichment plant, which was shut down in 1985. The facility is currently used for storage of hazardous waste.

Oil/Debris

The wastes associated with centrifuge activities that are stored at PORTS include waste oils and oil spill debris (7725-1A and 7725-1B, respectively) which are characterized as hazardous wastes because analysis has shown they contain cadmium (D006) and, based on process knowledge, may also contain benzene (D018).

Solid and Liquid Cleanup

Waste generated at this facility will be the result of clean-up activities associated with leaks or spills of stored wastes (7725-2). These clean-up residues will be characterized through process knowledge based on the waste being cleaned up.

Waste Sampling Equipment

Waste sampling operations occur on a continuing basis for the purpose of waste verification in accordance with the waste analysis plan. These operations also demonstrate compliance with the waste acceptance criteria of the various disposal sites utilized. The sampling will generate empty sample containers and used COLIWASAs. These glass containers and COLIWASAs (7725-3) are containerized and managed as hazardous waste. Identification codes are assigned based on the wastes sampled.

Offsite Treatment Residuals (Ash)

PORTS anticipates that it will send hazardous waste offsite for treatment prior to final disposal. Further, PORTS anticipates it will be required to manage treatment residuals returned to PORTS in the interim prior to their final disposal.

Ash

After incineration, any residues will be returned to PORTS for storage prior to ultimate offsite disposal. Incinerator residue (Ash-1) will be characterized based on knowledge of the characterization of the wastes prior to incineration and based on analytical results received from the incinerator laboratory. Other treatment residues that should occur will be treated in a similar manner and are included in this waste stream.

C-1A Containerized Waste [3745-50-44(C)(1)(b)]

Hazardous waste storage areas are entirely surrounded by containment systems that meet the requirements of 3745-55-75(B). Accordingly, the requirements of 3745-50-44(C)(1)(b) are not applicable to PORTS.

C-2 Waste Analysis Plan [3745-50-44(A)(3), 3745-54-13(B) & (C), 3745-59-07]

The waste analysis plan is detailed in Table C-2 and has been written for wastes that are generated at PORTS. The waste analysis plan includes the name of the waste stream, the parameters that are analyzed, frequency of analysis, and the rationale that governs each of the decisions in the plan. The waste analysis plan is applicable to wastes which are stored in container storage units in the X-326 and the X-7725.

C-2A Parameters and Rationale [3745-54-13(B)(1)]

The parameters and rationale for waste analysis are based on the waste characterizations made by PORTS, which are in Section C-1, and are listed in the waste analysis plan in Table C-2. Analytical parameters identified in Table C-2 have been selected to perform three functions:

- To confirm PORTS waste characterizations as necessary for container storage.
- To confirm that sufficient information exists to comply with the Land Disposal Restrictions for wastes to be shipped offsite to a TSD Facility.
- To confirm that treatment residues resulting from the treatment of PORTS wastes received from offsite are identified correctly and determine whether such residues require further treatment before they may be land disposed.

In accordance with DOE management practices, wastes suspected to contain accountable elevated concentrations of enriched uranium are tested at each generating source for uranium. In addition, DOE policy requires that all wastes generated at PORTS that are commercially treated or disposed of be free of any radionuclide that was added as a result of PORTS operations. All of the hazardous wastes generated by DOE at PORTS are currently assumed to include radioactive material from DOE operations and must be stored onsite as mixed (hazardous and radioactive) waste until radioactivity release criteria have been established. In addition, wastes determined to be mixed wastes will be managed at PORTS or another DOE Facility until approved treatment and disposal methods for mixed wastes are available.

C-2B Test Methods [3745-54-13(B)(2)]

Hazardous wastes are analyzed for the contaminants identified in the Ohio Administrative Code 3745-51-24, Table 1. Test methods used for waste analysis are from the latest revision of the approved methods annotated in "Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods," U.S. EPA Publication SW-846 (incorporated by reference in rule 3745-50-11 of the Administrative Code), or other EPA-approved methods. PORTS has a detailed laboratory approval program that includes review and approval of the QA program maintained by each laboratory.

C-2C Sampling Methods [3745-54-13(B)(3), 3745-51, Appendix I]

Hazardous wastes are generated at or near the work areas in amounts of 55 gallons or less and are moved to 90-day storage areas or the hazardous waste storage units in the X-326 or X-7725 by the generators. Wastes are typically sampled prior to transport to a permitted container storage unit and may also be sampled for verification in the unloading area at the X-7725 or X-326 container storage units.

Numerous sampling techniques are used in collecting representative samples of hazardous wastes. The technique used will depend on the physical nature of the waste, the container from which the sample is taken, and other physical constraints. A discussion of methods appropriate for different waste types and physical states is provided in the following sections.

Liquids and Slurries

A COLIWASA is a device used to sample contained liquids and slurries. A COLIWASA is an open tube of nominal length that can be lowered into a container, allowed to fill as it is lowered, then sealed at the bottom when the desired depth is reached thus obtaining a "core" sample. This provides a representative sample of layered or homogeneous materials. The COLIWASA may be a closed tube within a tube or an open tube with an external plug at its base and is usually made of glass.

Sludges, Loosely Consolidated Sediments, and Other Solids

A hand corer "back saver" is a device that consists of a thin-walled tube with a tapered nosepiece and a weighted "T" handle to facilitate driving the corer and any necessary extensions into sludges, sediments, or solids. The thin-walled tube has a check valve at its upper end to prevent washout during retrieval of a sludge through an overlying water layer. The corer is introduced into the sludge or loosely consolidated sediment and then forced into the waste with a smooth continuous motion. After the corer is withdrawn, the nosepiece is removed and the sample is transferred to an appropriate container. This technique provides an undisturbed sample of the waste in question. A COLIWASA or an auger may also be used to sample sludges as an alternative to a corer.

Sample collection with a scoop or shovel provides a disturbed grab sample. Generally, these tools are used in collecting samples of the uppermost material. To obtain a sample, a scoop is simply inserted into the sludge or loosely consolidated material, removed with the sample, and then the sample is transferred to an appropriate container. When using a scoop or shovel, it is often desirable to remove the uppermost 1 to 2 inches of the waste and collect an unexposed sample.

A drum thief can be used to sample granular or other dry, loosely consolidated materials. The thief consists of two concentric metallic tubes (one tube inside the other) with elongated holes cut along the length of both tubes. The outer tube is fitted with a pointed, solid metallic end to facilitate penetration into the material. The sample is collected by forcing the thief into the material when the holes of the tubes are not aligned. When the pointed end of the thief reaches the bottom of the drum, the inner tube is twisted until the holes in both tubes are aligned allowing the material to enter the thief. When the thief is filled, the inner tube is again twisted in order to retain the sample. The sample is then transferred to an appropriate container.

Rags, Protective Equipment, and Other Miscellaneous Wastes

When sampling contaminated items such as rags, protective equipment (respirator cartridges, coveralls, etc.), and other miscellaneous wastes, it must be determined if the waste can be homogenized into a uniform or nearly uniform mass. If the waste can be homogenized, a grab sample is collected utilizing appropriate sampling equipment as described above for sludges, loosely consolidated sediments or other solids. Generally, homogenization of this type of waste cannot be accomplished and therefore, the sampling is aimed at retrieving the portion of the waste that exhibits the highest degree of contamination which provides for conservative hazardous waste determinations. Representative sampling of non-homogeneous waste such as rags, wipes, and personal protective equipment is particularly difficult. Samples of this type of waste will consist of small pieces of the material cut from several sections of larger pieces. The smaller pieces will be cut from the visibly soiled areas of the larger pieces. Samples will be obtained from as deep in the container as practical. An additional sampling method is to collect a core sample by compressing the waste and then using a hole saw attached to a drill to collect the sample.

C-2D Frequency of Analyses [3745-54-13(B)(4)]

Verification analysis of waste streams is performed on a periodic basis as specified in Table C-2. These analytical requirements are applicable to all waste streams sent to the X-326 and X-7725 container storage units. Residues that are generated from activities being performed on existing waste streams, such as sludges remaining after decanting liquids, are not subject to the waste analysis plan, because the waste that the residue originated from was already subject to the waste analysis plan, as designated in Table C-2. Except for waste unused chemicals, a discrete number of containers from each waste stream will be sampled. The containers will be randomly selected, and sampling will be timed to extend throughout the year. Ten percent of each waste stream will be physically sampled; twenty percent will be visually inspected. The number of containers sampled will be derived from an estimated annual generation rate based on the volume generated during the preceding twelve months. The type and frequency of sampling may be increased, as necessary, for wastes for which variability is a concern. An example of when such an increase could be necessary would be when raw materials change and when major maintenance or an unplanned shutdown occurs, particularly when such changes might affect the waste streams produced.

PORTS may utilize analytical testing done under other regulatory mandated programs to supplement or replace the analytical requirements of the waste analysis plan. Analyses of waste streams generated from those DOE facilities not leased by USEC are performed as specified in the waste analysis plan. These analyses are performed in order to characterize wastes in accordance with OAC 3745-51-31 through 33. Process knowledge and data from environmental restoration activities are used to characterize waste related to those activities.

Waste Unused Chemicals

Processes used at PORTS that are identified in OAC 3745-51-33 produce listed hazardous wastes (e.g., SW-1). Additionally, waste unused products may be characteristically hazardous per 3745-51-21 through 24. These wastes may be further characterized as necessary per 3745-52-11 and are then managed accordingly; however, waste unused chemicals will predominantly be characterized based on MSDS information and the knowledge of how they are generated.

C-2E Additional Requirements for Waste Generated Offsite [3745-54-13(C)]

Currently, PORTS does not accept any mixed waste for treatment, storage, or disposal from off-site locations. However, PORTS will be accepting residues from treatment processes applied to PORTS generated wastes. The residues from these treatment processes will be mixed wastes and may consist of any grouping from the PORTS listed waste codes (Table C-1).

The amount of treatment residue to be returned to PORTS is dependent on the volume reduction achieved by the treatment process. PORTS is currently anticipating that all of its liquid mixed wastes meeting the TSCA Waste Acceptance Criteria of the Department of Energy TSCA Incinerator in Oak Ridge, Tennessee will be shipped for treatment in order to achieve volume reduction. An annual burn plan is formulated for the Oak Ridge, Tennessee facility. PORTS contributes annually a predetermined percentage of the mixed waste liquids to be burned. The total amount of treatment residuals returned to PORTS shall be an amount that is no more than that which is directly proportional to the actual percentage of the mixed wastes that PORTS contributed. For example, if PORTS contributes one-third of the liquid mixed wastes to be incinerated, the residues returned should equal approximately one third of the total residuals generated. The incineration of liquid mixed wastes will result in significant volume reductions and minimal treatment residuals to be returned to PORTS, while treatments for other PORTS generated wastes may only result in minimal volume reductions of treatment residues prior to their return to PORTS.

The amount of treatment residues to be returned is also dependent on the volume reduction effectiveness of the treatment method. For example, the incineration of liquids will result in minimal treatment residues, while the treatment of solids or sludges will result in only a small decrease in mass. The ash content for liquid hazardous waste typically ranges from 0.1% to 0.5%. However, the total ash from the incineration of liquids can be higher depending on the level of total solids in the waste.

The TSCA liquid mixed wastes that are shipped to the Department of Energy TSCA Incinerator in Oak Ridge, Tennessee for treatment will be commingled with the wastes from other DOE sites. The existing incineration process, process configuration, and storage of post process residuals does not allow for dedicated batching or batch segregation from individual DOE sites.

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The resulting residuals from this treatment process potentially contain any combination of the coded wastes contained in Table C-1 of the application. All commingled treatment residues will be sampled and analyzed by the off-site processor and the results will be forwarded to PORTS for review and approval prior to shipping.

PORTS anticipates utilizing all of its assigned burn time at the Department of Energy TSCA incinerator at Oak Ridge, Tennessee. Annual targeted amounts may fluctuate as operational factors at the incinerator and generation rates at PORTS are taken into consideration.

Treatment residues from off-site treatment processes will be characterized based on the analytical results by the off-site processor prior to shipping. The results of these analyses will be forwarded to PORTS where they will be reviewed to determine if the treatment residues should be returned to PORTS. PORTS will perform fingerprint sampling and analysis on all incoming shipments of waste treatment residues for constituents based on knowledge of the waste sent off-site for treatment. The frequency will be consistent with that described in Section C-2d of the application. Test methods used are as specified in the latest revision of the approved methods in the U.S. EPA Publication SW-846, "Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods," (incorporated by reference in rule 3745-50-11 of the Administrative Code), or other EPA approved methods. PORTS has a detailed laboratory approval program that includes review and approval of the Quality Assurance Program of the contracted laboratories.

PORTS will conduct the following additional activities for incoming shipments of treatment residues received from a treatment, storage or disposal (TSD) facility.

1. If the shipment is in drums, PORTS will count and weigh the drums to ensure they match the number and weight on the manifest.
2. If the shipment is in bulk waste boxes, PORTS will count and weigh the boxes to ensure that the weight matches (within 10%) the manifested weight.
3. For all containers, PORTS will inspect the containers to ensure there are no leaks, major dents, or other structural defects. If such defects are found, PORTS will immediately repack the container.
4. Prior to all return shipments, the TSD facility will sample containers of treatment residue, as detailed in "Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods" (EPA SW-846), then affix chain of custody seals to ensure that the container has not been tampered with or had any material added to or removed from the container. The chain of custody seal will have a unique number assigned to it that will be reported on the manifest.

5. The following paperwork will be reviewed before PORTS signs the manifest accepting treatment residues from any treatment process for storage:
   - Hazardous waste manifests.
   - LDR notification stating whether the residue meets treatment standards or not.
   - Lab analysis results received from the treatment, storage or disposal facility confirming the LDR determination.
   - Back-up lab analysis, performed by PORTS, that confirms any other hazardous designations attached to the waste (i.e., because of treatment, heavy metals may have concentrated in the waste, thus causing the residue to become a TCLP characteristic hazardous waste).

6. PORTS will ensure that labeling of the drums is correct, i.e., that there are appropriate hazardous waste labels, radioactive labels, etc.
7. The paperwork, referenced in Paragraph 5 above, will be maintained in a file with all of the original shipping manifests and Request for Disposal forms. This file will provide for matching of documentation of waste that has been shipped off-site to the documentation of the proportion of waste that is returned as residues. The file will be for a specifically defined period of time and will collect all documentation for off-site shipments and residues returned during that period. This documentation will become a part of the operating record.
8. If a significant discrepancy is found (e.g., number of drums does not match the manifest, weight of the bulk waste containers is not within 10 percent of the manifested waste, chain of custody seals do not match or are broken, etc.), PORTS will accept the wastes and will contact the appropriate TSD facility personnel to resolve the discrepancy. PORTS waste management authorities responsible for the operation of the container storage units will determine whether a waste shipment can be accepted.
9. If PORTS accepts the wastes and the discrepancy is not resolved in 15 days, PORTS will immediately submit a letter to the director describing the discrepancy and all attempts to resolve it, as well as a copy of the manifest and/or shipping paper at issue. PORTS will notify in writing the Director of the Ohio EPA and the Environmental Background Investigation Unit of the Ohio Attorney General's Office prior to receiving for storage any residual waste generated by any person other than DOE.

C-2F Additional Requirements for Facilities Handling Ignitable, Reactive or Incompatible Wastes [3745-54-13(B)(6), 3745-54-17]

Specific information regarding waste types stored at PORTS is provided in Section C-1. Ignitable, reactive and/or incompatible wastes are stored as described in Section D-1a(3). Additional requirements apply to the storage of ignitable, reactive, or incompatible wastes. The special precautions taken for these wastes are described in Sections D-1 and F-5 of this application, and are only summarized in this section.

In general, PORTS prevents the mixing of incompatible wastes in containers by only accumulating wastes from the same waste stream. Similarly, containers of wastes are only stored with other wastes of the same type wherever possible. Where it is necessary to store a variety of waste types in the same container (e.g., lab packs) or containers of different waste types in proximity to each other, the waste types are carefully reviewed by PORTS waste management personnel responsible for the operation of the storage areas to ensure compatibility and appropriate container storage configurations. This review involves investigation of the processes generating the wastes, researching of references including, but not limited to the latest editions of EPA manual No. 600/2-80-076, "A Method for Determining the Compatibility of Hazardous Waste," "Lange's Handbook of Chemistry," "Bretherick's Handbook of Reactive Chemical Hazards," "The Merck Index," "Handbook of Chemistry and Physics," "Hazardous Chemicals Desk Reference," "Dangerous Properties of Industrial Materials," 40 CFR 264 Appendix V, and other appropriate documents. Compatibility testing with very small amounts of wastes may be performed in the PORTS laboratory facilities. Compatibility testing will be limited to simple mixing procedures conducted under controlled conditions.

Special precautions are required for the management of ignitable or reactive wastes. Ignitable wastes are separated and protected from sources of ignition or reaction including but not limited to open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (i.e., from heat-producing chemical reactions), and radiant heat. "No Smoking" signs are conspicuously placed where there is a hazard from ignitable or reactive wastes.

C-3 Waste Analysis Requirements Pertaining to Land Disposal Restrictions [3745-54-13(A)(1), 3745-59-07]

Land Disposal Restrictions (LDRs) apply to hazardous wastes that require treatment prior to being land disposed. Land disposal includes but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or concrete disposal vault. Waste-specific prohibitions were promulgated as solvent wastes, dioxin-containing wastes, first-third, second-third, and third-third wastes. PORTS does not operate any of the land disposal facilities described above.

Wastes identified or listed as hazardous for which EPA has not promulgated a prohibition or treatment standard are not subject to LDRs. Treatment standards are either concentration based or technology based. Concentration based treatment standards are based on either Constituent Concentrations in Waste Extract (CCWE) or Constituent Concentration in the Waste (CCW). Technology based treatment standards are based on the Best Demonstrated Available Technology (BDAT).

C-3A Waste Characterization [3745-54-13(A)(1), 3745-59-07]

Each hazardous waste generated by and/or stored at PORTS is discussed in Section C-1 and summarized in Table C-1. Table C-1 notes whether the waste was characterized by analytical knowledge and/or process knowledge. Corresponding analytical results are provided in Appendix C-1. PORTS conservatively assumes that all hazardous wastes generated require treatment prior to land disposal until they are proven to meet treatment standards through analysis as described in Section C-2.

C-3A(1) Waste Characteristics: Solvent Wastes and Dioxin Containing Wastes: [3745-54-13(A)(1), 3745-59-07 (A), 3745-59-30, 3745-59-31]

The solvent wastes generated and managed at PORTS with EPA Hazardous Waste Nos. F001, F002, F003, F004, and F005 are prohibited from land disposal unless they are treated according to the treatment standards contained in OAC 3745-59-40 to 3745-59-44.

Some of the F001 through F005 wastes generated from uranium processing become contaminated with radionuclides. These wastes must be stored onsite as mixed wastes until approved treatment and disposal methods are available.

Laboratory operations at PORTS may generate waste unused chemicals including 2,4,5-TP (silvex), pentachlorophenol; 2,3,4,6-tetrachlorophenol; 2,4,5-trichlorophenol; 2,4,6-trichlorophenol, 2,4,5-T, 2,3,4,5-tetrachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol which can be identified as F027 hazardous wastes based on a knowledge of how they are generated. F027 hazardous wastes are prohibited from land disposal unless they are treated according to the treatment standards in OAC 3745-59-40 through 44. F020 through F023, F026, and F028 are dioxin-containing wastes and are not generated at PORTS.

C-3A(2) Waste Characteristics: First Third Wastes with Treatment Standards: [3745-59-33(A) Through (E), 3745-59-07(A), 3745-59-41 Through 3745-59-43]

The first third list was developed to establish treatment standards for at least one-third of all listed hazardous wastes by August 8, 1988. The wastes for which standards were generated on August 8, 1988, became the first third list although they addressed less than one-third of all listed wastes. The process waste list that is known as the first third is a list of certain waste streams that are primarily derived from the "K" list of specific waste streams. PORTS does not utilize any process listed under OAC 3745-51-32 and therefore does not produce any waste that is regulated under that portion of the first third prohibition.

However, included in the first third list of prohibited wastes is waste produced from the F006 non-specific waste source. F006 non-wastewater wastes have been generated at PORTS; the F006 waste will be treated as a restricted waste until analytical data are available to determine that the wastes meet the applicable treatment standards. The treatment standards applicable to this waste are prescribed in OAC 3745-59-41 and 3745-59-43.

As allowed under OAC 3745-54-07, process knowledge will be the primary determination of whether a waste stream is subject to regulation under the first third prohibition. However, PORTS conservatively assumes that all hazardous wastes generated require treatment prior to land disposal until they are proven to meet treatment standards through analysis as described in Section C-2. Analytical data will be provided as required to offsite, commercial TSD facilities.

C-3A(3) Waste Characteristics: Second Third Wastes with Treatment Standards: [3745-59-34(A) Through (G), 3745-59-34 (I), 3745-59-41 Through 3745-59-43]

The second third list was developed to assure that treatment standards would be in place for at least two-thirds of all listed hazardous wastes by June 8, 1989. The wastes for which standards were established on June 8, 1989, became the second third list although they addressed less than two-thirds of all listed wastes. All second third wastes generated at PORTS are non-wastewaters. Second third hazardous wastes generated at PORTS currently include spent cyanide plating bath solution and waste unused chemicals. Second third wastes generated at PORTS will be characterized based on the processes and materials used in generating the wastes.

PORTS conservatively assumes that all hazardous wastes generated require treatment prior to land disposal until they are proven to meet treatment standards through analysis as described in Section C-2. The second third wastes at PORTS will be treated as restricted wastes until analytical data are available to determine differently.

C-3A(4) Waste Characteristics: Third Third Wastes With Treatment Standards: [3745-59-35]

The third third list was developed to establish treatment standards for all remaining listed hazardous wastes by May 8, 1990. Third third wastes generated at PORTS will be characterized based on the processes and materials used in generating the wastes. PORTS also manages hazardous wastes listed in OAC 7345-59-40 that are mixed wastes. These wastes are prohibited from land disposal effective May 8, 1992.

C-3B Notification and Certification Requirements: [3745-59-07]

The following sections present procedures that PORTS follows for preparing and maintaining applicable notifications and certifications for generators. Further, PORTS anticipates shipping hazardous waste offsite for incineration and having the associated treatment residuals returned to PORTS for further management. The procedure for preparing and maintaining applicable notifications and certifications for wastes to be further managed are also detailed in the following sections.

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C-3B(1) Retention of Generator Notices and Certifications [3745-59-07(A)]

PORTS has identified the wastes generated at the facility that are restricted from land disposal in the *Site Treatment Plan for Mixed Wastes*, as required by the Federal Facilities Compliance Act and the Ohio EPA Director's Findings and Orders. Further, as detailed in the waste analysis plan (Section C-2) all waste streams at PORTS except for unused laboratory and non-laboratory commercial products will be analyzed on a periodic basis. In addition, PORTS will be shipping hazardous wastes for treatment to, and receiving the associated treatment residues from Oak Ridge, Tennessee and other TSD Facilities. Therefore, PORTS must re-review and maintain all notices and certification submitted by the original generator (PORTS) prior to acceptance and storage of this residue as part of the requirements of this section.

The generator of this waste is required to notify the PORTS storage facility in writing that the wastes being sent to the facility are subject to LDRs. At a minimum, this written notice will include the following information with each shipment of waste:

- U.S. EPA Hazardous Waste Number(s).
- The corresponding treatment standards and all applicable prohibitions set forth in OAC 3745-59-32.
- The manifest number associated with the shipment of waste.
- Waste analysis data as available.

For treatment residues returned to PORTS that PORTS determines could be land disposed without further treatment, each shipment of waste will be accompanied by a written notification and certification to the disposal facility. The written notification will contain the information detailed previously. The certification will be signed by an authorized representative and state the following:

> "I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in Rules 3745-59-40 through 3745-59-44 of the Administrative Code and all applicable prohibitions set forth in Rule 3745-59-32 of the Administrative Code or Section 3004(D) of RCRA. I believe that the information I submitted is true,

accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

PORTS will maintain information, in addition to what is provided in Appendix C-1, that was utilized to determine if the waste was subject to land disposal regulations onsite in the operating record. This information could include MSDS, process information, analytical testing, or other supporting data.

PORTS will maintain copies of all notices, certifications, demonstrations, waste analysis data, and other documentation as a part of this subsection in the operating record for at least 5 years after the waste that is the subject of the documentation was sent to an onsite or offsite treatment, storage, or disposal facility. PORTS understands that the 5 year period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the director.

C-3B(2) Notification and Certification of Wastes to be Further Managed [3745-59-07(B)(6)]

Many of the hazardous wastes generated at PORTS are required under the LDRs to meet specific treatment standards or are required to be treated in a specified manner. Wastes are subject to further regulation if it is determined that the waste belongs to one of several categories. The categories are as follows:

- F001 through F005 spent solvents and sludges.
- F020, F023, and F026 through F028 dioxin-containing wastes.
- First third listed wastes.
- Second third listed wastes.
- Third third listed wastes.

PORTS sends hazardous wastes offsite for treatment and anticipates shipment of wastes offsite for final disposal. Therefore, as required under this section, PORTS will ensure the receiving facilities will be notified that they are receiving a hazardous waste that is subject to further regulation, in accordance with OAC 3745-59-07(a)(1). This is accomplished by utilizing a form that is provided by the disposal facility or by PORTS. The completed form identifies the U.S. EPA hazardous waste identification number, the corresponding treatment standards and applicable prohibitions, the manifest number associated with the waste shipment, and the waste analysis data where available. The information regarding applicable treatment standards will include those treatment standards for waste F001 through F005, and F035. Treatment standards for all other restricted wastes will either be included or be referenced by including on the notification the following information:

- The applicable wastewater or non-wastewater designation.
- The applicable subdivisions within a waste code based on waste-specific criteria (e.g., D003 reactive cyanides).
- The regulation(s) where the applicable standards appear.

Where the applicable treatment standards are expressed as specified technologies, the applicable five-letter treatment code (e.g., Incin, Wetox) will also be listed.

Copies of all TSD facility notifications will be maintained in the operating record files at PORTS for a minimum of 5 years.

If it is determined that hazardous wastes from PORTS can be land disposed without further treatment, PORTS will submit to the treatment, storage, or land disposal facility a notice of certification stating that the waste meets the applicable treatment standards set forth in OAC 3745-59-40 through 3745-59-44 and the applicable prohibition levels set forth in OAC 3745-59-32. This will be accomplished by utilizing a form that is provided by the disposal facility or by PORTS. The completed form identifies the U.S. EPA hazardous waste identification number, the corresponding treatment standards and applicable prohibitions, the manifest number associated with the waste shipment, and the waste analysis data where available. The information regarding applicable treatment standards will include those treatment standards for wastes F001 through F005, F035, and the California listed wastes. Treatment standards for all other restricted wastes will either be included or be referenced by including on the notification the following information:

- The applicable wastewater or non-wastewater designation.
- The applicable subdivisions within a waste code based on waste specific-specific criteria (e.g., D003 reactive cyanides).
- The regulation(s) where the applicable standards appear.

Where the applicable treatment standards are expressed as specified technologies, the applicable five-letter treatment code (e.g., Incin, Wetox) will also be listed.

The certification statement shall be signed by a representative that is authorized by U.S. DOE for this purpose. The certification statement will read as follows:

> "I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in rules 3745-59-40 through 3745-59-44 of the Administrative Code and all applicable prohibitions set forth in rule 3745-59-32 of the Administrative Code or Section 3004(d) of RCRA. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

Copies of the certification and TSD notification will be maintained in the operating record at PORTS for a minimum of 5 years.

Current U.S. DOE policy requires that all wastes generated at PORTS that are commercially treated or disposed of be free of any radionuclide that was added as a result of PORTS operations. Consequently, all of the hazardous wastes generated at PORTS are currently assumed to include radioactive material from DOE operations and are stored onsite as mixed (hazardous and radioactive) waste. In addition, wastes determined to be mixed wastes are managed at PORTS or another DOE facility until approved treatment and disposal methods for mixed wastes are available. If sufficient documentation is developed to demonstrate that a waste contains no added radioactive constituents, the waste will be shipped offsite to a commercial treatment, storage, disposal, or recycling facility.

The storage of mixed waste will extend beyond 1 year, as allowed by the Federal Facilities Compliance Act and the Director's Findings and Orders in accordance with the *Site Treatment Plan for Mixed Wastes*. PORTS will make every effort to remove the waste from storage for shipment to treatment and/or disposal facilities, in a timely manner, as these options become available. The *Site Treatment Plan for Mixed Wastes* has been developed and approved by the Ohio EPA, and is updated annually. The *Site Treatment Plan* accounts for the mixed waste that will require storage for longer than one year and establishes milestones for dispositioning the waste.

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PORTS conservatively assumes that all hazardous.wastes generated require treatment prior to land disposal until they are proven to meet treatment standards through analysis as described in Section C-2. All waste analysis data will be maintained in the facility operating record for a minimum of 5 years.

From time to time, PORTS will manage a restricted hazardous waste subsequent to the point of generation that will be excluded from the definition of waste or hazardous waste or exempt from regulation under Chapters 3745-50 to 3745-69 of the Administrative Code. These wastes or hazardous wastes are excluded or exempted under OAC 3745-51-02 to 3745-51-06. In order to comply with OAC 3745-59-07(a)(5), a one-time notice-to-file will be placed in the facility operating record. The notice-to-file will state the generation, subsequent exclusion from the definition of waste or hazardous waste or exemption from regulation under OAC chapters 3745-50 to 3745-69, and the disposition of the waste. An example of such an exclusion is a point source discharge from industrial wastewater treatment [OAC 3745-51-04 (a)(2)].

Examples of restricted wastes that will be further managed under the one-time notice-to-file are as follows:

- Solvent-contaminated groundwaters that will be managed at the X-622, X-622T, X-623, and X-624 water treatment facilities permitted by a National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act. The groundwater will be processed through activated carbon treatment columns to remove solvents that contaminate the groundwater. The water will be discharged through an NPDES permitted discharge point. The carbon, when spent, will be managed as a hazardous waste.
- Decontamination and cleaning solutions and corrosive solutions (EPA Waste Code D002) will be managed at the X-705 Uranium Recovery and Decontamination facility. Two NPDES-permitted wastewater treatment units will neutralize the solutions and/or remove heavy metals (e.g., chromium or lead) from the solutions. The treated effluent is discharged through an NPDES permitted discharge point. Sludges generated by the treatment processes are managed as a hazardous waste.

All one-time notices-to-file will be maintained in the facility operating record for a minimum of 5 years.

PORTS has onsite laboratory facilities that use an extensive variety of laboratory chemicals. Additionally, a limited number of laboratory grade chemicals are utilized in the process or maintenance areas for specialized purposes. Small quantity commercial products are also used throughout the plant site. Periodically, there is a collection of these chemicals or products from throughout PORTS due to the chemicals no longer being used or the shelf life of the product has been exceeded. Many of these products will be included in Appendix II of OAC 3745-59-42. These wastes will often be packaged for disposal in a "labpack."

Regarding labpacks, compliance with OAC 3745-59-07(A)(8) and (9) will be demonstrated by entering a one-time notice-to-file into the operating record that states that chemicals listed under and OAC 3745-59-42 Appendix II are properly packaged. Manifests and certification statements will be forwarded with the waste shipments to the TSD facility. The certification statements will contain the wording as stated in OAC 3745-59-07(a)(7), as appropriate, and will be signed by a person authorized by the U.S. DOE to perform that function.

Copies of the notice-to-file and the certification statement will be maintained in the facility operating record for a minimum of 5 years.

PORTS is not a small quantity generator; therefore, OAC 3745-59-07(A)(8) does not apply.

C-3C Additional Requirements Pertaining Storage of Restricted Wastes [3745-59-50]

C-3C(1) Restricted Wastes Stored in Containers: [3745-59-50(A)(2)(a)]

All containers of restricted wastes are labeled or marked with, at a minimum, the words "Hazardous Waste", the accumulation start date, and the identity of the container contents. Example labels are shown in Figures D-4 through D-5. The identity of the container contents is given by the container identification numbers and/or bar code labels which are also applied to the containers for tracking purposes. Other labels and markings are applied as applicable and required.

C-3C(2) Storage of Liquid PCB Wastes [3745-59-50(F)]

Pursuant to OAC 3745-59-50(F), the owner/operator of a facility storing liquid hazardous wastes containing concentrations of PCBs greater than or equal to 50 ppm, must demonstrate that the facility meets the requirements of 40 CFR 761.65(B).

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PORTS stores liquid hazardous wastes containing PCBs in concentrations greater than or equal to 50 ppm in the storage units in X-7725 and X-326. These storage units are completely enclosed and have been constructed with an adequate floor which has a continuous 6 inch high perimeter curb with the exception of areas 4A and P in X-7725 and the X-326 unit. The containment volume of all storage areas are equal to at least two times the internal volume of the largest PCB container or 25 percent of total internal volume of all PCB articles and PCB containers. There are no drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the storage area. The floors and curbing have been constructed of continuous smooth and impervious materials to prevent or minimize penetration of PCBs. Existing expansion joints in the floor are sealed with an impervious flexible sealing compound.

Certain mixed wastes with Toxic Substance Control Act (TSCA) regulated PCBs are stored in five-inch polybottles in areas 4A and P in X-7725 and in X-326 with one inch to one and a half inch curbing. These storage arrangements are necessary to avoid a potential nuclear criticality incident and are allowed under a DOE-EPA TSCA Federal Facilities Compliance Agreement.

A nuclear criticality incident is an uncontrolled self sustained chain reaction in a fissionable material. At PORTS, the fissionable material is the U-235 isotope of uranium. A nuclear criticality accident releases an intense, lethal burst of radiation and generates highly radioactive fission products. All nuclear facilities use strict, very formal control measures mandated by the DOE or the Nuclear Regulatory Commission (NRC) to prevent such accidents.

The control of storage geometry is commonly used to assure safety. Special geometries are carefully designed to make a criticality accident very unlikely. These configurations usually involve small cylinders and thin slabs that allow neutrons to escape rather than initiating fission. Wastes from fissile material areas must be assumed to contain unsafe amounts of fissionable material, and such wastes are necessarily stored in controlled geometries.

Fissionable wastes are usually stored in 5-inch internal diameter "polybottles" or cans with controlled geometries. These special containers are placed in carefully designed storage arrays, where geometry minimizes interaction from neutrons in adjacent containers. Credible accident scenarios are analyzed and controls are implemented to assure that spillage cannot create a nuclear safety hazard. Dike heights are limited so that a "slab" of spilled material cannot assume an unfavorable geometry. The fissionable materials processed at the Portsmouth Site dictate a maximum dike height of 1.0 to 1.5 Inches, depending upon the materials and the storage geometries.

The arrangement of each storage area is rigidly maintained through a formal system of inspection and configuration control. The nuclear safety standards employed are those required by DOE, which are based upon the nationally accepted standards of the American Nuclear Society.

DOE signed a Federal Facilities Compliance Agreement (FFCA) with the U.S. Environmental Protection Agency on February 20, 1992, that recognizes the criticality concerns and the use of 5-inch polybottles for PCBs in waste from high uranium assay areas. Additionally, EPA is pursuing a proposed rulemaking that would authorize exceptions for storage requirements due to this criticality concern. Neither the X-7725 Unit nor the X-326 Unit are located below the 100-year flood elevation. The entire PORTS Site is located above the 100-year flood elevation, as discussed in Section B-3 of this application.

All non-radioactive restricted waste containing greater than 50 ppm PCBs that are accumulated for storage in the X-7725 container storage unit will be removed for disposal or for treatment within one year of the date these wastes are first placed into storage. The Federal Facilities Compliance Agreement signed by PORTS, DOE, and EPA on February 20, 1992, authorizes DOE to store radioactive PCB waste longer than 1 year due to lack of disposal capacity.

C-3D Exemptions from and Extensions to Land Disposal Restrictions

The storage of mixed waste will extend beyond 1 year, as allowed by the Federal Facilities Compliance Act and the Director's Findings and Orders in accordance with the *Site Treatment Plan for Mixed Wastes*. PORTS will make every effort to remove the waste from storage for shipment to treatment and/or disposal facilities, in a timely manner, as these options become available. The *Site Treatment Plan for Mixed Wastes* has been developed and approved by the Ohio EPA, and is updated annually. The *Site Treatment Plan* accounts for the mixed waste that will require storage for longer than one year and establishes milestones for dispositioning the waste.

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Table C-1
Summary of Generated Waste Streams

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Laboratory Off-Specification Chemicals (SW-1, SW-1A, with metals, and SW-1B, without metals)	D001	Various Ignitables	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D002	Acids/Bases	L	Process knowledge	DEACT and meet 268.48 standards
	D003	Various Reactives	S,L,G	Process knowledge	DEACT
	D004	Arsenic	S,L	Process knowledge	5.0 mg/l EP
	D005	Barium	S,L	Process knowledge	100 mg/l TCLP
	D006	Cadmium	S,L	Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S,L	Process knowledge	5.0 mg/l TCLP
	D008	Lead	S,L	Process knowledge	5.0 mg/l TCLP
	D009	Mercury	S,L	Process knowledge	IMERC; or RMERC
	D010	Selenium	S,L	Process knowledge	5.7 mg/l TCLP
	D011	Silver	S,L	Process knowledge	5.0 mg/l TCLP
	D012	Endrin	S,L	Process knowledge	0.13 and meet 268.48 standards
	D013	Lindane	S,L	Process knowledge	0.66 and meet 268.48 standards
	D014	Methoxychlor	S,L	Process knowledge	0.18 and meet 268.48 standards
	D015	Toxaphene	S,L	Process knowledge	2.6 and meet 268.48 standards

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D016	2,4-D	S,L	Process knowledge	10 and meet 268.48 standards
	D017	2,4,5-TP (Silver)	S,L	Process knowledge	7.9 and meet 268.48 standards
	D018	Benzene	S,L	Process knowledge	10 and meet 268.48 standards
	D019	Carbon Tetrachloride	S,L	Process knowledge	6.0 and meet 268.48 standards
	D020	Chlordane	S,L	Process knowledge	0.26 and meet 268.48 standards
	D021	Chlorobenzene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D023	o-Cresol	S,L	Process knowledge	5.6 and meet 268.48 standards
	D024	m-Cresol	S,L	Process knowledge	5.6 and meet 268.48 standards
	D025	p-Cresol	S,L	Process knowledge	5.6 and meet 268.48 standards
	D026	Cresol	S,L	Process knowledge	11.2 and meet 268.48 standards
	D027	1,4-Dichlorobenzene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D028	1,2-Dichloroethane	S,L	Process knowledge	6.0 and meet 268.48 standards
	D029	1,1-Dichloroethylene	S,L	Process knowledge	6.0 and meet 268.48 standards

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D030	2,4-Dinitrotoluene	S,L	Process knowledge	140 and meet 268.48 standards
	D031	Heptachlor (and its epoxide)	S,L	Process knowledge	0.066 and meet 268.48 standards
	D032	Hexachlorobenzene	S,L	Process knowledge	10 and meet 268.48 standards
	D033	Hexachlorobutadiene	S,L	Process knowledge	5.6 and meet 268.48 standards
	D034	Hexachloroethane	S,L	Process knowledge	30 and meet 268.48 standards
	D035	Methyl ethyl ketone	S,L	Process knowledge	36 and meet 268.48 standards
	D036	Nitrobenzene	S,L	Process knowledge	14 and meet 268.48 standards
	D037	Pentachlorophenol	S,L	Process knowledge	7.4 and meet 268.48 standards
	D038	Pyridine	S,L	Process knowledge	16 and meet 268.48 standards
	D039	Tetrachloroethylene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D041	2,4,5-Trichlorophenol	S,L	Process knowledge	7.4 and meet 268.48 standards
	D042	2,4,6-Trichlorophenol	S,L	Process knowledge	7.4 and meet 268.48 standards

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	P001	Warfarin & salts, when present at concentrations greater than 0.3%	S,L	Process knowledge	CMBST
	P003	Arcolein	S,L	Process knowledge	CMBST
	P004	Aldrin	S,L	Process knowledge	0.066
	P005	Allyl alcohol	S,L	Process knowledge	CMBST
	P008	4-Aminopyridine	S,L	Process knowledge	INCIN
	P010	Arsenic acid H_3AsO_4	S,L	Process knowledge	5.0 mg/l TCLP
	P011	Arsenic oxide As_2O_5	S,L	Process knowledge	5.0 mg/l TCLP
	P012	Arsenic oxide As_2O_3	S,L	Process knowledge	5.0 mg/l TCLP
	P013	Barium cyanide	S,L	Process knowledge	7.6 mg/l TCLP
	P015	Beryllium	S,L	Process knowledge	RMETL; or RTHRM
	P016	Dichloromethyl ether	S,L	Process knowledge	INCIN
	P018	Brucine	S,L	Process knowledge	INCIN
	P020	Dinoseb	S,L	Process knowledge	2.5
	P021	Calcium cyanide	S,L	Process knowledge	590
	P022	Carbon disulfide	S,L	Process knowledge	4.8 mg/l TCLP
	P023	Chloroacetaldehyde	S,L	Process knowledge	INCIN
	P024	p-Chloroanaline	S,L	Process knowledge	16
	P028	Benzyl chloride	S,L	Process knowledge	INCIN
	P029	Copper cyanide	S,L	Process knowledge	590

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	P030	Cyanides (soluble CN salts) not otherwise specified	S,L	Process knowledge	590
	P031	Cyanogen	S,L	Process knowledge	CHOXD; WETOX; or INCIN
	P033	Cyanogen chloride	S,L	Process knowledge	CHOXD; WETOX; or INCIN
	P037	Dieldrin	S,L	Process knowledge	0.13
	P038	Diethylarsine	S,L	Process knowledge	5.0 mg/l TCLP
	P041	Diethyl-p-nitrophenyl phosphate	S,L	Process knowledge	CMBST
	P042	Epinephrine	S,L	Process knowledge	INCIN
	P046	alpha, alpha-Dimethyl-phenethylamine	S,L	Process knowledge	INCIN
	P047	4,6-Dinitro-o-cresol & salts	S,L	Process knowledge	INCIN
	P048	2,4-Dinitrophenol	S,L	Process knowledge	160
	P050	Endosulfan	S,L	Process knowledge	0.066
	P051	Endrin & metabolites	S,L	Process knowledge	0.13
	P056	Fluorine	G	Process knowledge	ADGAS FB NEUTR
	P058	Acetic acid, fluoro-, sodium salt	S,L	Process knowledge	INCIN
	P059	Heptachlor	S,L	Process knowledge	0.066
	P060	Isodrin	S,L	Process knowledge	0.066
	P063	Hydrogen cyanide	S,L	Process knowledge	590
	P064	Methyl isocyanate	S,L	Process knowledge	INCIN

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	P068	Hydrazine, methyl-	S,L	Process knowledge	CHOXD; CHRED; OR CMBST
	P070	Aldicarb	S,L	Process knowledge	INCIN
	P071	Methyl parathion	S,L	Process knowledge	4.6
	P072	alpha-Naphthylthiourea	S,L	Process knowledge	INCIN
	P073	Nickel carbonyl	S,G	Process knowledge	5.0 mg/l TCLP
	P074	Nickel cyanide	S,L	Process knowledge	5.0 mg/l TCLP
	P075	Nicotine & salts	S,L	Process knowledge	INCIN
	P076	Nitric oxide	G	Process knowledge	ADGAS
	P077	p-Nitroanaline	S,L	Process knowledge	28
	P078	Nitrogen dioxide	G	Process knowledge	ADGAS
	P082	N-nitrosodimethylamine	S,L	Process knowledge	2.3
	P087	Osmium tetroxide	S,L	Process knowledge	RMETL; or RTHRM
	P089	Parathion	S,L	Process knowledge	4.6
	P093	Phenylthiourea	S,L	Process knowledge	INCIN
	P095	Phosgene	G	Process knowledge	INCIN
	P098	Potassium cyanide	S,L	Process knowledge	590
	P099	Potassium silver cyanide	S,L	Process knowledge	0.30 mg/l TCLP
	P104	Silver cyanides	S,L	Process knowledge	0.30 mg/l TCLP
	P105	Sodium azide	S,L	Process knowledge	CHOXD; CHRED; or CMBST

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	P106	Sodium cyanide	S,L	Process knowledge	590
	P108	Strychnine & salts	S,L	Process knowledge	INCIN
	P110	Tetraethyl lead	S,L	Process knowledge	0.37 mg/l TCLP
	P111	Diphosphoric acid, tetraethyl ester	S,L	Process knowledge	CMBST
	P113	Thallic oxide	S,L	Process knowledge	RTHRM; or STABL
	P114	Thallium selenite	S,L	Process knowledge	0.16 mg/l TCLP
	P115	Thallium sulfate	S,L	Process knowledge	RTHRM; or STABL
	P116	Hydrazine-carbothioamide	S,L	Process knowledge	INCIN
	P119	Ammonium vanadate	S,L	Process knowledge	STABL
	P120	Vanadium pentoxide	S,L	Process knowledge	STABL
	P121	Zinc cyanide	S,L	Process knowledge	590
	P123	Toxaphene	S,L	Process knowledge	2.6
	U001	Acetaldehyde (Phenylacetaldehyde)	L	Process knowledge	CMBST
	U002	Acetone	L	Process knowledge	160
	U003	Acetonitrile	S,L	Process knowledge	INCIN
	U004	Acetophenone	S,L	Process knowledge	9.7
	U006	Acetyl chloride	S,L	Process knowledge	INCIN
	U007	Acrylamide	S,L	Process knowledge	INCIN
	U008	Acrylic acid	S,L	Process knowledge	CMBST
	U009	Acrylonitrile	S,L	Process knowledge	84
	U012	Aniline	S,L	Process knowledge	14

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U017	Benzene (dichloromethyl-)	S,L	Process knowledge	INCIN
	U018	Benz(a)anthracene	S,L	Process knowledge	3.4
	U019	Benzene	S,L	Process knowledge	10
	U020	Benzenesulfonic acid chloride	S,L	Process knowledge	INCIN
	U021	Benzidine	S,L	Process knowledge	INCIN
	U022	Benzo(a)pyrene	S,L	Process knowledge	3.4
	U023	Benzotrichloride	S,L	Process knowledge	CHOXD; CHRED; or CMBST
	U026	Chlornaphazm	S,L	Process knowledge	INCIN
	U028	Diethylhexyl phthalate	S,L	Process knowledge	28
	U029	Bromoethane	S,L	Process knowledge	15
	U030	4-Bromophenyl phenyl ether	S,L	Process knowledge	15
	U031	n-Butyl alcohol	L	Process knowledge	2.6
	U032	Calcium chromate	S,L	Process knowledge	0.86 mg/l TCLP
	U033	Carbon oxyfluoride	S,L	Process knowledge	INCIN
	U034	Chloral	S,L	Process knowledge	INCIN
	U036	Chlordane, alpha & gamma isomers	S,L	Process knowledge	0.26
	U037	Chlorobenzene	S,L	Process knowledge	6.0
	U039	p-Chloro-m-cresol	S,L	Process knowledge	14

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U041	Epichlorohydrin	S,L	Process knowledge	INCIN
	U042	2-Chloroethyl vinyl ether	S,L	Process knowledge	INCIN
	U043	Vinyl chloride	S,L	Process knowledge	6.0
	U044	Chloroform	S,L	Process knowledge	6.0
	U045	Chloromethane	S,L	Process knowledge	30
	U046	Chloromethyl methyl ether	S,L	Process knowledge	INCIN
	U047	beta-Chloronaphthalene	S,L	Process knowledge	5.6
	U048	o-Chlorophenol	S,L	Process knowledge	5.7
	U050	Chrysene	S,L	Process knowledge	3.4
	U051	Creosote	S,L	Process knowledge	0.37 mg/l TCLP
	U052	Cresol (Cresylic acid)	S,L	Process knowledge	11.2
	U055	Cumene	L	Process knowledge	CMBST
	U056	Cyclohexane	L	Process knowledge	CMBST
	U057	Cyclohexanone	L	Process knowledge	0.75 mg/l TCLP
	U060	DDD	S,L	Process knowledge	0.087
	U061	DDT	S,L	Process knowledge	0.087
	U063	Dibenzo(a,h)pyrene	S,L	Process knowledge	8.2
	U064	Dibenzo(a,i)pyrene	S,L	Process knowledge	CMBST
	U066	Propane, 1,2-dibromo-3-chloro-	S,L	Process knowledge	15
	U067	Ethylene dibromide	S,L	Process knowledge	15

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U068	Dibromomethane	S,L	Process knowledge	15
	U069	Dibutyl phthalate	S,L	Process knowledge	28
	U070	1,2-Dichlorobenzene	S,L	Process knowledge	6.0
	U071	1,3-Dichlorobenzene	S,L	Process knowledge	6.0
	U072	1,4-Dichlorobenzene	S,L	Process knowledge	6.0
	U073	3,3-Dichlorobenzidine	S,L	Process knowledge	INCIN
	U074	2-Butene, 1,4-dichloro-	S,L	Process knowledge	INCIN
	U075	Dichlorodifluoro-methane	S,L	Process knowledge	7.2
	U076	1,1-Dichloroethane	S,L	Process knowledge	6.0
	U077	1,2-Dichloroethane	S,L	Process knowledge	6.0
	U078	1,1-Dichloroethylene	S,L	Process knowledge	6.0
	U079	1,2-Dichloroethylene	S,L	Process knowledge	30
	U080	Methylene chloride	S,L	Process knowledge	30
	U081	2,4-Dichlorophenol	S,L	Process knowledge	14
	U082	2,6-Dichlorophenol	S,L	Process knowledge	14
	U083	1,2-Dichloropropene	S,L	Process knowledge	18
	U084	1,3-Dichloropropene	S,L	Process knowledge	18
	U086	Hydrazine, 1,2-diethyl-	S,L	Process knowledge	CHOXD; CHRED; or CMBST
	U088	Diethyl phthalate	S,L	Process knowledge	28
	U092	Dimethylamine	L	Process knowledge	INCIN

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U094	Benz(a)anthracene, 7,12-dimethyl	S,L	Process knowledge	CMBST
	U096	Dimethylbenzyl-hydroperoxide	S,L	Process knowledge	CHOXD; CHRED; or CMBST
	U101	2,4-Dimethylphenol	S,L	Process knowledge	14
	U102	Dimethyl phthalate	S,L	Process knowledge	28
	U105	2,4-Dinitrotoluene	S,L	Process knowledge	140
	U106	2,6-Dinitrotoluene	S,L	Process knowledge	28
	U107	Di-n-octyl phthalate	D,L	Process knowledge	28
	U108	1,4-Dioxane	S,L	Process knowledge	CMBST
	U109	1,2-Diphenylhydrazine	S,L	Process knowledge	CHOXD; CHRED; or CMBST
	U110	Dipropylamine	L	Process knowledge	INCIN
	U112	Ethyl acetate	L	Process knowledge	33
	U113	Ethyl acrylate	L	Process knowledge	CMBST
	U117	Ethyl ether	L	Process knowledge	160
	U118	Ethyl methacrylate	S,L	Process knowledge	160
	U120	Fluoranthene	S,L	Process knowledge	3.4
	U121	Trichlorofluoromethane	S,L	Process knowledge	30
	U122	Formaldehyde	S,L	Process knowledge	CMBST
	U123	Formic acid	S,L	Process knowledge	CMBST
	U126	Glycidylaldehyde	S,L	Process knowledge	CMBST
	U127	Hexachlorobenzene	S,L	Process knowledge	10
	U128	Hexachlorobutadiene	S,L	Process knowledge	5.6

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U129	Lindane	S,L	Process knowledge	0.066
	U130	Hexachlorocyclo-pentadiene	S,L	Process knowledge	2.4
	U131	Hexachloroethane	S,L	Process knowledge	30
	U133	Hydrazine	S,L	Process knowledge	CHOXD; CHRED; or CMBST
	U134	Hydrofluoric acid	S,L	Process knowledge	ADGAS; FB NEUTR; or NEUTR
	U135	Hydrogen sulfide	S,L	Process knowledge	CHOXD; CHRED; or CMBST
	U137	Indeno(1,2,3-cd)pyrene	S,L	Process knowledge	3.4
	U138	Methyl iodide	S,L	Process knowledge	65
	U140	Isobutyl alcohol	S,L	Process knowledge	170
	U141	1,3-Benzodioxide	S,L	Process knowledge	2.6
	U142	Kepone	S,L	Process knowledge	0.13
	U144	Lead acetate	S,L	Process knowledge	0.37 mg/l TCLP
	U145	Lead phosphate	S,L	Process knowledge	0.37 mg/l TCLP
	U146	Lead subacetate	S,L	Process knowledge	0.37 mg/l TCLP
	U147	Maleic anhydride	S,L	Process knowledge	CMBST
	U149	Malonotritrile	S,L	Process knowledge	INCIN
	U150	Melphalan	S,L	Process knowledge	INCIN
	U151	Mercury	S,L	Process knowledge	0.025 mg/l TCLP
	U152	Methacrylonitrile	S,L	Process knowledge	84

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U153	Methanethiol	S,L	Process knowledge	INCIN
	U154	Methanol	L	Process knowledge	0.75 mg/l TCLP
	U159	Mehtyl ethyl ketone	S,L	Process knowledge	36
	U160	Methyl ethyl ketone peroxide	S,L	Process knowledge	CHOXD; CHRED; or CMBST
	U161	Methyl isobutyl ketone	L	Process knowledge	33
	U162	Methyl methacrylate	S,L	Process knowledge	160
	U165	Napthalene	S,L	Process knowledge	5.6
	U169	Nitrobenzene	S,L	Process knowledge	14
	U170	p-Nitrophenol	S,L	Process knowledge	29
	U171	2-Nitropropane	S,L	Process knowledge	INCIN
	U182	Paraldehyde	S,L	Process knowledge	CMBST
	U183	Pentachlorobenzene	S,L	Process knowledge	10
	U184	Pentachloroethane	S,L	Process knowledge	INCIN
	U185	Pentachloronitro-benzene	S,L	Process knowledge	4.8
	U188	Phenol	S,L	Process knowledge	6.2
	U190	Phthalic anhydride	S,L	Process knowledge	28
	U196	Pyridine	S,L	Process knowledge	16
	U197	p-Benzoquinone	S,L	Process knowledge	CMBST
	U201	Resorcinol	S,L	Process knowledge	CMBST
	U202	Saccharin & salts	S,L	Process knowledge	INCIN
	U204	Selenious acid	S,L	Process knowledge	0.16 mg/l TCLP

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U205	Selenium sulfide SeS_2	S,L	Process knowledge	0.16 mg/l TCLP
	U207	1,2,3,4-Tetrachlorobenzene	S,L	Process knowledge	14
	U208	1,1,1,2-Tetrachloroethane	S,L	Process knowledge	6.0
	U209	1,1,2,2-Tetrachloroethane	S,L	Process knowledge	6.0
	U210	Tetrachloroethylene	S,L	Process knowledge	6.0
	U211	Carbon tetrachloride	S,L	Process knowledge	6.0
	U213	Tetrahydrofuran	L	Process knowledge	CMBST
	U214	Thallium acetate	S,L	Process knowledge	RTHRM; or STABL
	U215	Thallium carbonate	S,L	Process knowledge	RTHRM; or STABL
	U216	Thallium chloride	S,L	Process knowledge	RTHRM; or STABL
	U217	Thallium nitrate	S,L	Process knowledge	RTHRM; or STABL
	U218	Thioacetamide	S,L	Process knowledge	INCIN
	U219	Thiourea	S,L	Process knowledge	INCIN
	U220	Toluene	S,L	Process knowledge	10
	U223	Toluene diisocyanate	S,L	Process knowledge	CMBST
	U225	Bromoform	S,L	Process knowledge	15
	U226	1,1,1-Trichloroethane	S,L	Process knowledge	6.0
	U227	1,1,2-Trichloroethane	S,L	Process knowledge	6.0
	U228	Trichloroethylene	S,L	Process knowledge	6.0
	U234	1,3,5-Trinitrobenzene	S,L	Process knowledge	INCIN

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U235	Tris(2,3-dibromo-propyl) phosphate	S,L	Process knowledge	.01
	U236	Trypan blue	S,L	Process knowledge	INCIN
	U238	Ethyl carbamate (urethane)	S,L	Process knowledge	INCIN
	U239	Xylene	L	Process knowledge	30
	U240	2,4-D, salts & esters	S,L	Process knowledge	INCIN
	U243	Hexachloropropene	S,L	Process knowledge	30
	U246	Cyanogen bromide (CN)Br	S,L	Process knowledge	CHOXD; WETOX; or INCIN
	U247	Methoxychlor	S,L	Process knowledge	.018
	U248	Warfarin & salts when present at concentrations of 0.3% or less	S,L	Process knowledge	CMBST
	U328	Benzenamine, 2-methyl	S,L	Process knowledge	INCIN; or thermal destruction
	U353	Benzenamine, 4-methyl	S,L	Process knowledge	INCIN; or thermal destruction
	U359	Ethylene glycol monoethyl ether	S,L	Process knowledge	CMBST

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	F027	2,4,5-TP (Silvex) Pentachlorophenol 2,3,4,6-Tetrachloro-phenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,4,5-T,2,3,4,5-Tetra chlorophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	S,L	Process knowledge	7.4
Rags, gloves, wipes, absorbent material, etc. (SW-2)	D004	Arsenic	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	S	Analytical, Process knowledge	IMERC; or RMERC
	D011	Silver	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	S	Analytical, Process knowledge	10 and meet 268.48 standards
	D022	Chloroform	S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D026	Cresol	S	Analytical, Process knowledge	11.2 and meet 268.48 standards
	D035	Methyl ethyl ketone	S	Analytical, Process knowledge	36 and meet 268.48 standards
	D038	Pyridine	S	Analytical, Process knowledge	16 and meet 268.48 standards

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D039	Tetrachloroethylene	S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001	Tetrachloroethylene	S	Process knowledge	6.0
	F001	1,1,1-Trichloroethane	S	Process knowledge	6.0
	F001	Trichloroethylene	S	Process knowledge	6.0
	F002	Tetrachloroethylene	S	Process knowledge	6.0
	F002	Trichloroethylene	S	Process knowledge	6.0
	F004	Cresylic acid	S	Process knowledge	11.2
	F005	Toluene	S	Process knowledge	10
	F005	Methyl ethyl ketone	S	Process knowledge	36
Floor Sweepings (SW-3)	D006	Cadmium	S	Analytical	1.0 mg/l TCLP
	D007	Chromium	S	Analytical	5.0 mg/l TCLP
	D008	Lead	S	Analytical	5.0 mg/l TCLP
	D009	Mercury	S	Analytical	IMERC; or RMERC
	D010	Selenium	S	Analytical	5.7 mg/l TCLP
Mixed Batteries (SW-4)	D002	Sulfuric acid	S,L	Process knowledge	DEACT and meet 268.48 standards
	D003	Various Reactives	S,L	Analytical, Process knowledge	DEACT
	D006	Cadmium	S,L	Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S,L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	S,L	Process knowledge	5.0 mg/l TCLP
Lithium Batteries (SW-4A)	D003	Various Reactives	S	Process knowledge	DEACT

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D007	Chromium	S	Analytical	5.0 mg/l TCLP
Mercury Batteries (SW-4B)	D009	Mercury	S	Process knowledge	0.20 mg/l TCLP
Spent and/or Broken Lead Acid Batteries (SW-4C)	D002	Sulfuric acid	S,L	Analytical, Process knowledge	DEACT and meet 268.48 standards
	D008	Lead	S,L	Analytical, Process knowledge	5.0 mg/l TCLP
Nickel Cadmium Batteries (SW-4D)	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
Light Bulb Mixtures (SW-5)	D006	Cadmium	S	Analytical, Manufacturers Information	1.0 mg/l TCLP
	D008	Lead	S	Analytical, Manufacturers Information	5.0 mg/l TCLP
	D009	Mercury	S	Analytical, Manufacturers Information	IMERC; or RMERC
Fluorescent Light Bulbs (SW-5A)	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
Mercury Vapor Bulbs (SW-5B)	D009	Mercury	S	Analytical, Process knowledge	0.20 mg/l TCLP
High Pressure Sodium Bulbs/Other incandescent (SW-5C)	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
Antifreeze (SW-6)	D010	Selenium	L	Analytical	5.7 mg/l TCLP
Gas cylinders (SW-7)	D001	Acetylene, hydrogen fluoride, chlorine trifluoride	G	Manufacturer's Information	DEACT
	D003	Cyanide	G	Manufacturer's Information	DEACT
	P063	Cyanide	G	Manufacturer's Information	590

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Aerosol cans (SW-8)	D001	Various Ignitables	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D007	Chromium	L	Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
	D021	Chlorobenzene	L	Process knowledge	6.0 and meet 268.48 standards
	D022	Chloroform	L	Process knowledge	6.0 and meet 268.48 standards
	D035	Methyl ethyl ketone	L	Process knowledge	36 and meet 268.48 standards
	D039	Tetrachlorethylene	L	Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	L	Process knowledge	6.0 and meet 268.48 standards
Diesel fuel, gasoline, and kerosene (SW-9)	D001	Various Ignitables	L	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
RCW/RHW system waste (SW-10)	D007	Chromium	S	Analytical	5.0 mg/l TCLP

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Non-laboratory off-specification chemicals (SW-11, SW-11A, with metals, and SW-11B, without metals)	D001	Various Ignitables	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D002	Various Corrosives	L	Process knowledge	DEACT and meet 268.48 standards
	D004	Arsenic	S,L	Process knowledge	5.0 mg/l TCLP
	D005	Barium	S,L	Process knowledge	100 mg/l TCLP
	D006	Cadmium	S,L	Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S,L	Process knowledge	5.0 mg/l TCLP
	D008	Lead	S,L	Process knowledge	5.0 mg/l TCLP
	D009	Mercury	S,L	Process knowledge	IMERC; or RMERC; or AMLGM
	D010	Selenium	S,L	Process knowledge	1.0 or 5.7 mg/l TCLP
	D011	Silver	S,L	Process knowledge	5.0 mg/l TCLP
	D012	Endrin	S,L	Process knowledge	0.13 and meet 268.48 standards
	D013	Lindane	S,L	Process knowledge	0.066 and meet 268.48 standards
	D014	Methoxychlor	S,L	Process knowledge	0.18 and meet 268.48 standards
	D015	Toxaphene	S,L	Process knowledge	2.6 and meet 268.48 standards
	D018	Benzene	S,L	Process knowledge	10 and meet 268.48 standards
	D019	Carbon tetrachloride	S,L	Process knowledge	6.0 and meet 268.48 standards

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D020	Chlordane	S,L	Process knowledge	0.26 and meet 268.48 standards
	D021	Chlorobenzene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D022	Chloroform	S,L	Process knowledge	6.0 and meet 268.48 standards
	D026	Cresol	S,L	Process knowledge	11.2 and meet 268.48 standards
	D027	1,4-Dichlorobenzene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D028	1,2-Dichloroethane	S,L	Process knowledge	6.0 and meet 268.48 standards
	D029	1,1-Dichloroethylene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D030	2,4-Dinitrotoluene	S,L	Process knowledge	140 and meet 268.48 standards
	D031	Heptachlor (and its epoxide)	S,L	Process knowledge	0.066 and meet 268.48 standards
	D032	Hexachlorobenzene	S,L	Process knowledge	10 and meet 268.48 standards
	D033	Hexachlorobutadiene	S,L	Process knowledge	5.6 and meet 268.48 standards
	D034	Hexachloroethane	S,L	Process knowledge	30 and meet 268.48 standards
	D035	Methyl ethyl ketone	S,L	Process knowledge	36 and meet 268.48 standards

Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D036	Nitrobenzene	S,L	Process knowledge	14 and meet 268.48 standards
	D038	Pyridine	S,L	Process knowledge	16 and meet 268.48 standards
	D039	Tetrachloroethylene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	S,L	Process knowledge	6.0 and meet 268.48 standards
	D043	Vinyl chloride	S,L	Process knowledge	6.0 and meet 268.48 standards
	P029	Copper cyanide	S	Process knowledge	590
	P056	Fluorine	G	Process knowledge	ADGAS FB NEUTR
	P063	Hydrogen cyanide	G	Process knowledge	590
	P104	Silver cyanide	S	Process knowledge	0.30 m.g/l TCLP
	P108	Strychnine & salts	S	Process knowledge	INCIN
	U019	Benzene	L	Process knowledge	10
	U036	Chlordane	S	Process knowledge	0.26
	U069	Dibutyl phthalate	L	Process knowledge	28
	U077	1,2-Dichloroethane	L	Process knowledge	6.0
	U107	Di-n-octyl phthalate	L	Process knowledge	28
	U134	Hydrofluoric acid	L	Process knowledge	ADGAS FB NEUTR; or NEUTR
	U151	Mercury	L	Process knowledge	0.025 mg/l TCLP; or AMLGM
	U159	Methyl ethyl ketone	L	Process knowledge	36

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Table C-1 (continued)

Site Wide (SW)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	U211	Carbon tetrachloride	L	Process knowledge	6.0
	U220	Toluene	L	Process knowledge	10
	U226	1,1,1-Trichloroethane	L	Process knowledge	6.0
	U228	Trichloroethylene	L	Process knowledge	6.0
	U239	Xylene	L	Process knowledge	30
	U240	2,4-D	S	Process knowledge	10
Flushing solution (SW-12)	D002	Sulfamic acid	L	Analytical, Process knowledge	DEACT and meet 268.48 standards
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
Circuit boards and miscellaneous equipment components (SW-13)	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D011	Silver	S	Analytical, Process knowledge	5.0 mg/l TCLP
Solid cleanup & spill residue (SW-14A)	All Codes	Varies	L,S	Analytical, Process knowledge	(reference 40 CFR 268.40)
Liquid cleanup & spill residue (SW-14B)	All Codes	Varies	L	Analytical, Process knowledge	(reference 40 CFR 268.40)
Glass media (SW-16)	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
Metal shavings (SW-17)	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	S	Analytical, Process knowledge	10 and meets 268.48 standards
Brick,concrete and masonary wastes (SW-18)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)

Table C-1 (continued)

Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Site Wide (SW)					
Miscellaneous Burnable Debris (SW-19)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)
Soil from non-ER activities (SW-20)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)
Contaminated water from non-ER projects (SW-21)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)
Sludges from Groundwater, Decontamination Water, Surface Water, etc. (SW-22)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)
Sludges from Oils or Other Organic Liquids (SW-23)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)
Environmental Restoration (ER)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Groundwater and related water (ER-1)*	F001	1,1,1-Trichloroethane, Trichloroethylene	L	Process knowledge	6.0
	D040	Trichloroethylene	L	Analytical	6.0 and meet 268.48 standards
PPE, miscellaneous debris (ER-2)*	F001	1,1,1-Trichloroethane, Trichloroethylene	S	Process knowledge	6.0
Soils (ER-3)*	F001	Trichloroethylene, 1,1,1-Trichloroethane	S	Analytical, Process knowledge	6.0
*Includes environmental media that may contain hazardous wastes					
Oil (ER-4A)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards

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Table C-1 (continued)

Environmental Restoration (ER)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil debris (ER-4B)	D018	Benzene	S	Process knowledge	10 and meet 268.48 standards
Carbon sludge (ER-5A)	D018	Benzene	L,S	Analytical, Process knowledge	10 and meet 268.48 standards
	D019	Carbon tetrachloride	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D022	Chloroform	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D028	1,2-Dichloroethane	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D029	1,1-Dichloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001	1,1,1-Trichloroethane, Trichloroethylene	L,S	Analytical, Process knowledge	6.0
Spent treatment filters (ER-5B)	D018	Benzene	L,S	Analytical, Process knowledge	10 and meet 268.48 standards
	D019	Carbon tetrachloride	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D022	Chloroform	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D028	1,2-Dichloroethane	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D029	1,1-Dichloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards

Table C-1 (continued)

Environmental Restoration (ER)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D040	Trichloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001	1,1,1-Trichloroethane, Trichloroethylene	L,S	Analytical, Process knowledge	6.0
Neat Trichloroethylene (TCE) (ER-6)	D018	Benzene	L,S	Analytical, Process knowledge	10 and meet 268.48 standards
	D019	Carbon tetrachloride	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D022	Chloroform	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D028	1,2-Dichloroethane	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D029	1,1-Dichloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001	1,1,1-Trichloroethane, Trichloroethylene	L,S	Process knowledge	6.0
	F001	Carbon tetrachloride	L,S	Process knowledge	6.0
Surface water (ER-7)	All Codes	Varies	L	Analytical, Process knowledge	(reference 40 CFR 268.40)
Decontamination water (ER-8)	All Codes	Varies	L	Analytical, Process knowledge	(reference 40 CFR 268.40)
Brick, concrete and masonary wastes (ER-9)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)

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Table C-1 (continued)

Environmental Restoration (ER)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Floor sweepings, vacuum dust, etc. (ER-10)	All Codes	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)
X-100 Administration Building (100)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Office machine repair solvents (100-1)	D001	Isopropyl alcohol	L,S	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D040	Trichloroethylene	L,S	Process knowledge	6.0 and meet 268.48 standards
	F002	Trichloroethylene, 1,1,1-Trichloroethane	L,S	Process knowledge	6.0
Printing solvents waste (100-2)	D001	Methylene chloride, Ethanol	L,S	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D007	Chromium	L,S	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L,S	Analytical, Process knowledge	5.0 mg/l TCLP
	D039	Tetrachloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F002	Trichloroethylene, 1,1,1-Trichloroethane	L,S	Process knowledge	6.0
Blue print solutions (100-3)	D002	Ammonia	L	Process knowledge	DEACT and meet 268.48 standards
Oil (100-4)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards

Table C-1 (continued)

X-100 Administration Building (100)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Flammable solvents (100-5)	D001	Ethanol, Naptha	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D001	Hydrocarbons	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
Film/microfilm (100-6)	D011	Silver	S	Process knowledge	5.0 mg/l TCLP
Photoreceptors (100-7)	D008	Lead	S	Analytical	5.0 mg/l TCLP
Silver recovery cartridges (100-9)	D011	Silver	S	Process knowledge	5.0 mg/l TCLP
X-101 Hospital (101)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Silver solution and related material (101-2)	D011	Silver	L	Process knowledge	5.0 mg/l TCLP
X-104A Indoor Firing Range (104)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Cleaning solution (104-1)	D008	Lead	L	Analytical	5.0 mg/l TCLP
Lead dust/debris, filters, PPE (104-2)	D004	Arsenic	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	S	Analytical, Process knowledge	IMERC; or RMERC

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Table C-1 (continued)

Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
X-104A Indoor Firing Range (104)					
	D031	Heptachlor	S	Analytical, Process knowledge	0.066 and meet 268.48 standards
Lead bullets (104-3)	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
X-326, X-330, X-333 Cascade Process Buildings (Cascade)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Gas analyzer waste (Cascade-1)	D001	Ethanol	L	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D002	Nitric acid, Boric acid, Ammonium citrate	L	Analytical, process knowledge	DEACT and meet 268.48 standards
Solvent (Cascade-2)	F001	1,1,1-Trichloroethane, Trichloroethylene, Carbon tetrachloride, Tetrachloroethylene	S	Process knowledge	6.0
	F001	Methylene chloride	L	Process knowledge	30.0
	F002	Freon 113	S	Process knowledge	30.0
	F003	Xylene	S	Process knowledge	30.0
	F003	Acetone	S	Process knowledge	160.0
	F005	Methyl ethyl ketone	S	Process knowledge	36 and meet 268.48 standards
	F005	Toluene	S	Analytical, process knowledge	10 and meet 268.48 standards

Table C-1 (continued)

X-326, X-330, X-333 Cascade Process Buildings (Cascade)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D001	Xylene, toluene, methyl ethyl ketone	L	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D010	Selenium	L	Analytical, Process knowledge	5.7 mg/l TCLP
	D019	Carbon tetrachloride	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D035	Methyl ethyl ketone	L	Analytical, Process knowledge	36 and meet 268.48 standards
	D039	Tetrachloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D040	Trichloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
Decontamination waste solutions (Cascade-3)	D002	Nitric Acid	L	Analytical, Process knowledge	DEACT and meet 268.48 standards
	D004	Arsenic	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D005	Barium	L	Analytical, Process knowledge	100 mg/l TCLP
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	L	Analytical, Process knowledge	IMERC; or RMERC
	D010	Selenium	L	Analytical, Process knowledge	5.7 mg/l TCLP
	D011	Silver	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
Oil/solvent (Cascade-4)	D001	Benzene	L	Process knowledge	DEACT and meet 268.48 standards

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Table C-1 (continued)

X-326, X-330, X-333 Cascade Process Buildings (Cascade)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D007	Chromium	L	Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
	F001	1,1,1-Trichloroethane	L	Process knowledge	6.0
Oil (Cascade-5)	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	L	Analytical, Process knowledge	IMERC; or RMERC; or AMLGM
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
Decontamination waste solids (Cascade-6)	D004	Arsenic	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D005	Barium	S	Analytical, Process knowledge	100 mg/l TCLP
	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	S	Analytical, Process knowledge	IMERC; or RMERC
	D010	Selenium	S	Analytical, Process knowledge	5.7 mg/l TCLP
	D011	Silver	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	S	Analytical, Process knowledge	10 and meet 268.48 standards
	D035	Methyl ethyl ketone	S	Analytical, Process knowledge	36 and meet 268.48 standards

Table C-1 (continued)

X-326, X-330, X-333 Cascade Process Buildings (Cascade)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D040	Trichloroethylene	S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001	Trichloroethylene, 1,1,1-Trichloroethane	S	Process knowledge	6
	F002	Freon 113	S	Process knowledge	30
	F003	Xylene	S	Process knowledge	30
	F003	Acetone	S	Process knowledge	160
	F005	Methyl ethyl ketone	S	Process knowledge	36
	F005	Toluene	S	Process knowledge	10
Mercury and debris (Cascade-7)	D009	Mercury	L,S	Process knowledge	IMERC; or RMERC; or AMLGM
Elemental (metallic) mercury (Cascade-7A)	D009	Mercury	L,S	Process knowledge	IMERC; or RMERC; or AMLGM
Mercury contaminated solids and debris (Cascade-7B)	D009	Mercury	S	Process knowledge	IMERC; or RMERC; or AMLGM
X-ray solutions (Cascade-8)	D002	Acidic solution	L	Process knowledge	DEACT and meet 268.48 standards
Trap Material (Cascade-10)	D004	Arsenic	S	Analytical	5 mg/l TCLP
	D006	Cadmium	S	Analytical	1 mg/l TCLP
	D007	Chromium	S	Analytical	5 mg/l TCLP
	D008	Lead	S	Analytical	5 mg/l TCLP
	D009	Mercury	S	Analytical	IMREC ro RMREC

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Table C-1 (continued)

X-342 Feed Vaporization and Fluorine Generation Facility (342)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Generator scrap and debris (342-1)	D004	Arsenic	S	Analytical	5.0 mg/l TCLP
Generator solutions (Decon) (342-2)	D004	Arsenic	L	Process knowledge	5.0 mg/l TCLP
Generator sludge (342-3)	D004	Arsenic	S,L	Analytical	5.0 mg/l TCLP

X-343 Feed Vaporization Sampling Facility (343)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Parts cleaning solution (343-2)	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	S	Process knowledge	10 and meet 268.48 standards

X-344 UF_6 Sampling and Shipping Facility (344)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil (344-1A)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Filters and oil debris (344-1B)	D018	Benzene	S	Process knowledge	10 and meet 268.48 standards
Solvent (344-2)	D001	Ethanol	L	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	F001	Freon 113	L	Process knowledge	30.0
Decontamination solutions (344-5)	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards

Table C-1 (continued)

Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
X-530, X-533 Electrical Switch Yards (Switch)					
Lead cable (Switch-1)	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
Oil (Switch-2)	D008	Lead	L	Analytical	5.0 mg/l TCLP
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Switches (Switch-3)	D009	Mercury	S,L	Process knowledge	IMERC; or RMERC
X-600 Steam Plant (600)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Solvent (600-1)	F001	1,1,1-Trichloroethane	L	Process knowledge	6.0
Oil (600-2)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
PPE and related solids (600-3)	D004	Arsenic	S	Analytical	5.0 mg/l TCLP
X-600B Steam Plant Shop Building (600B)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Parts cleaning solutions (600B-2)	All Codes	Varies	L	Analytical, Process knowledge	(reference 40 CFR 268.40)
X-608 Raw Water Pump House (608)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Mercury cleanup materials (608-1)	D009	Mercury	S	Process knowledge	IMERC; or RMERC
Oil (608-2)	D009	Mercury	L	Process knowledge	IMERC; or RMERC

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Table C-1 (continued)

X-608 Raw Water Pump House (608)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Mercury, oil, water and sand (608-3)	D009	Mercury	L	Analytical	IMERC; or RMERC
X-611 Water Treatment Facility (611)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil and filters (611-1)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
	F001	1,1,1-Trichloroethane	L	Process knowledge	6.0 and meet 268.48 standards
	F001	Trichloroethylene	L	Process knowledge	6.0 and meet 268.48 standards
Mercury (611-2)	D009	Mercury	S	Analytical	IMERC; or RMERC
X-616 Liquid Effluent Treatment Facility (616)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil and filters (616-1)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Soil/sludge (616-2)	D007	Chromium	S	Analytical, Process knowledge	5.0 mg/l TCLP
Filter cloth and PPE (616-3)	D007	Chromium	S	Analytical, Process knowledge	5.0 mg/l TCLP

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Table C-1 (continued)

X-626, X-630, X-633, and X-6000 Pump House and Cooling Towers (Pump)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Mercury spill cleanup (Pump-1)	D009	Mercury	S	Process knowledge	IMERC; or RMERC
Cooling tower curtains (Pump-2)	D007	Chromium	S	Analytical	5.0 mg/l TCLP
Oil (Pump-3)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
	F001	1,1,1-Trichloroethane	L	Process knowledge	6

X-700 Converter Maintenance and Chemical Cleaning Building (700)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Chromic acid tank closure waste (700-1)	F006	Cadmium	S	Process knowledge	0.19 mg/l TCLP
	F006	Chromium	S	Process knowledge	0.86 mg/l TCLP
	F006	Lead	S	Process knowledge	0.37 mg/l TCLP
	D004	Arsenic	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D005	Barium	S	Analytical, Process knowledge	100 mg/l TCLP
	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
Cleaning tank solution (700-2)	F001	Trichloroethylene	L	Process knowledge	6.0
	D040	Trichloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
Cleanup debris (700-3)	F001	Trichloroethylene	S	Process knowledge	6.0
	D040	Trichloroethylene	S	Analytical, Process knowledge	6.0 and meet 268.48 standards
Carbon sludge (700-4)	F001	Trichloroethylene	S,L	Process knowledge	6

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Table C-1 (continued)

X-700 Converter Maintenance and Chemical Cleaning Building (700)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D040	Trichloroethylene	S,L	Process knowledge	6.0 and meet 268.48 standards
Neutralization pit sludge (700-5)	F001	Trichloroethylene	S,L	Process knowledge	6
	D040	Trichloroethylene	S,L	Analytical, Process knowledge	6.0 and meet 268.48 standards
Fuels or oil with water (700-6)	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
Caustic solutions (700-7)	D002	Sodium hydroxide	L	Analytical, Process knowledge	DEACT and meet 268.48 standards
	D00X	Metals	L	Analytical, Process knowledge	(reference 40 CFR 268.40)
Nickel stripping solution (700-8)	D002	Nitric acid	L	Process knowledge	DEACT and meet 268.48 standards
Solvents (700-9)	F001, F002	Trichloroethylene	L	Process knowledge	6.0
	F001, F002	Methylene chloride	L	Process knowledge	30
	F003	Methanol	L	Process knowledge	NA
	D001	Methanol	L	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D040	Trichloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
Oil (700-10)	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP

Table C-1 (continued)

X-700 Converter Maintenance and Chemical Cleaning Building (700)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
HEPA filters (700-11)	D009	Mercury	S	Process knowledge	IMERC; or RMERC
Tank residue (700-12)	F001	Trichloroethylene	S	Process knowledge	6
	D040	Trichloroethylene	S	Process knowledge	6.0 and meet 268.48 standards
Maintenance					
Oil (700-13)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Mercury canisters (700-14)	D009	Mercury	S	Process knowledge	IMERC; or RMERC; or AMLGM
X-705 Decontamination Building (705)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Alkaline solutions (705-1)	D002	Sodium hydroxide	L	Process knowledge	DEACT and meet 268.48standards
	D006	Cadmium	L	Process knowledge	1.0 mg/l TCLP
	D008	Lead	L	Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Heavy metal sludge (705-2)	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	S	Analytical, Process knowledge	IMERC; or RMERC
Microfiltration sludge & filters (705-3)	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP

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Table C-1 (continued)

X-705 Decontamination Building (705)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil/solvents (705-4)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
	D040	Trichloroethylene	L	Process knowledge	6.0 and meet 268.48 standards
	F001	Trichloroethylene, 1,1,1-Trichloroethane	L	Process knowledge	6.0
Uranium recovery solvent (705-5)	D002	Nitric acid	L	Analytical, Process knowledge	DEACT and meet 268.48 standards
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	L	Analytical, Process knowledge	IMERC; or RMERC
Ion exchange resin (705-7)	D009	Mercury	S	Analytical	iMERC; or RMERC; or AMLGM
Mercury waste (705-8)	D009	Mercury	S	Process knowledge	IMERC; or RMERC; or AMLGM
Bag filters (705-9)	D006	Cadmium	S	Process knowledge	1.0 mg/l TCLP
	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
	D018	Benzene	S	Process knowledge	10 and meet 268.48 standards
Incinerator ash (705-10)	D004	Arsenic	S	Process knowledge	5.0 mg/l TCLP
	D005	Barium	S	Process knowledge	100 mg/l TCLP
	D006	Cadmium	S	Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S	Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
	D010	Selenium	S	Process knowledge	5.7 mg/l TCLP

Table C-1 (continued)

X-705 Decontamination Building (705)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D011	Silver	S	Process knowledge	5.0 mg/l TCLP
	D040	Trichloroethylene	S	Process knowledge	6.0 and meet 268.48 standards
	F001	Trichloroethylene	S	Process knowledge	6
Filter table gunk (705-11)	D009	Mercury	S	Analytical	IMERC; or RMERC; or AMLGM
Laboratory Waste (705-12)	D001	Ethanol	L	Analytical, Process knowledge	REACT and meet 268.48 standards; or RORGS; or CMBST
	D002	Acids	L	Analytical, Process knowledge	DEACT and meet 268.48 standards
	D022	Chloroform	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F003	Methanol	L	Process knowledge	NA
Oil & grease filter cake (705-15)	D006	Cadmium	S	Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S	Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
	D018	Benzene	S	Process knowledge	10 and meet 268.48 standards
Grease (705-16)	D008	Lead	S	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	S	Analytical, Process knowledge	10 and meet 268.48 standards

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Table C-1 (continued)

X-710 Technical Services Building (710)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil/solvents (710-1)	D001	Oil, Benzene	L	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
	D040	Trichloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001, F002	Trichloroethylene, 1,1,1-Trichloroethane	L	Analytical, Process knowledge	6
	F005	Benzene, carbon disulfide	L	Analytical, Process knowledge	respectively 10, NA
Acids/bases (710-2, 710-2A, acidic, and 710-2B, basic)	D002	Hydrochloric, sulfuric, phosphoric, and nitric acids, sodium hydroxide	L	Analytical, Process knowledge	DEACT and meet 268.48 standards
	D004	Arsenic	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D005	Barium	L	Analytical, Process knowledge	100 mg/l TCLP
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	L	Analytical, Process knowledge	IMERC; or RMERC
	D010	Selenium	L	Analytical, Process knowledge	5.7 mg/l TCLP
	D011	Silver	L	Analytical, Process knowledge	5.0 mg/l TCLP

Table C-1 (continued)

X-710 Technical Services Building (710)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Solvents (710-3)	D001	Acetone, Xylene, Toluene, Methanol, Propanol, Hexane, Ethyl ether	L	Analytical, Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D004	Arsenic	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D005	Barium	L	Analytical, Process knowledge	100 mg/l TCLP
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	L	Analytical, Process knowledge	IMERC; or RMERC
	D010	Selenium	L	Analytical, Process knowledge	5.7 mg/l TCLP
	D011	Silver	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.84 standards
	D022	Chloroform	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D035	Methyl ethyl ketone	L	Analytical, Process knowledge	36 and meet 268.48 standards
	D038	Pyridine	L	Analytical, Process knowledge	16 and meet 268.48 standards
	D040	Trichloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001, F002	1,1,1-Trichloroethane, Trichloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards

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Table C-1 (continued)

X-710 Technical Services Building (710)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	F002	Freon 113	L	Analytical, Process knowledge	30 and meet 268.48 standards
	F003	Xylene	L	Analytical, Process knowledge	30 and meet 268.48 standards
	F003	Acetone	L	Analytical, Process knowledge	160 and meet 268.48 standards
	F003	Methanol	L	Analytical, Process knowledge	NA
	F003	Ethyl ether	L	Analytical, Process knowledge	160 and meet 268.48 standards
	F005	Toluene	L	Analytical, Process knowledge	10 and meet 268.48 standards
Cyanide bearing solutions (710-5)	D003	Cyanide	L	Process knowledge	DEACT
	D008	Lead	L	Process knowledge	5.0 mg/l TCLP
	D010	Selenium	L	Process knowledge	5.7 mg/l TCLP
Machine coolant (710-6)	D004	Arsenic	L	Process knowledge	5.0 mg/l TCLP
Mercuric nitrate/mercuric sulfate solutions (710-7)	D002	Nitric acid	L	Process knowledge	DEACT and meet 268.48 standards
	D009	Mercury	L	Analytical	0.20 mg/l TCLP
Waste acetone (710-8)	F003	Acetone	L	Analytical	160
Arsenic trioxide solution (710-9)	D002	Nitric acid	L	Process knowledge	DEACT and meet 268.48 standards
	D004	Arsenic	L	Process knowledge	5.0 mg/l TCLP
Rags, wipes, and laboratory refuse (710-10)	D00X	Metal/solvents	S	Analytical, Process knowledge	(reference 40 CFR 268.40)
	F001, F002	Methylene chloride	S	Process knowledge	30
	F002	Freon 113	S	Process knowledge	30

Table C-1 (continued)

X-710 Technical Services Building (710)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	F005	Carbon disulfide	S	Process knowledge	30
X-720 Maintenance and Stores Building (720)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Instrument Shop					
Oil (720-1)	D005	Barium	L	Analytical, Process knowledge	100 mg/l TCLP
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
Silver solder slag (720-2)	D011	Silver	L,S	Process knowledge	5.0 mg/l TCLP
Mercury (720-3)	D009	Mercury	L,S	Analytical	IMERC; or RMERC; or AMLGM
Solvent (720-4)	F001, F002	1,1,1-Trichloroethane	L	Process knowledge	6.0
Plating solution (720-5)	D002	Acid	L	Process knowledge	DEACT and meet 268.48 standards
Cyanide plating solutions (720-6)	D003	Copper cyanide	L	Process knowledge	DEACT and meet 268.48 standards
	D007	Chromium	L	Process knowledge	5.0 mg/l TCLP
	D011	Silver	L	Process knowledge	5.0 mg/l TCLP
	F007	Cyanide	L	Process knowledge	590
Cleaning solutions (720-7)	D001	Isopropyl alcohol, ethanol	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST

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Table C-1 (continued)

X-720 Maintenance and Stores Building (720)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
	D006	Cadmium	L	Analytical	1.0 mg/l TCLP
	D007	Chromium	L	Analytical	5.0 mg/l TCLP
	D008	Lead	L	Analytical	5.0 mg/l TCLP
	D009	Mercury	L	Analytical	0.20 mg/l TCLP
	D018	Benzene	L	Analytical	10 and meet 268.48 standards
	F001	1,1,1-Trichloroethane	L	Process knowledge	6.0
Oil/solvents (720-8)	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D009	Mercury	L	Analytical, Process knowledge	IMERC; or RMERC; or AMLGM
	D010	Selenium	L	Analytical, Process knowledge	5.7 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
	F001	1,1,1-Trichloroethane	L	Analytical, Process knowledge	6.0
Seal Shop					
Acetone (720-10)	D001	Acetone	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D006	Cadmium	L	Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Process knowledge	5.0 mg/l TCLP
	F003	Acetone	L	Process knowledge	160

Table C-1 (continued)

X-720 Maintenance and Stores Building (720)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Kerosene and oil (720-11)	D001	Kerosene	L	Process knowledge	DEACT
	D007	Chromium	L	Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Compressor Shop					
Spent Solvents (720-12)	F002	1,1,1-Trichloroethane	L	Process knowledge	6.0
Degreaser sludge (720-13)	D018	Benzene	S,L	Process knowledge	10 and meet 268.48 standards
	F001	1,1,1-Trichloroethane	S,L	Process knowledge	6.0
Machine Shop					
Machine coolant/oil (720-15)	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
Oil (720-16)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Grinding sludge (720-17)	D006	Cadmium	S	Process knowledge	1.0 mg/l TCLP
	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
Electric Shop					
Spent solvent (720-19)	D001	Xylene	L	Analytical, Process knowledge	DEACT
	F003	Xylene	L	Analytical, Process knowledge	30

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Table C-1 (continued)

X-720 Maintenance and Stores Building (720)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil/test solution (720-20)	D001	Isopropyl alcohol, methyl ethyl ketone, pyridine, methanol, toluene	L,S	Analytical, Process knowledge	DEACT
	D018	Benzene	L,S	Analytical, Process knowledge	10 and meet 268.48 standards
	D022	Chloroform	L,S	Analytical, Process knowledge	6.0 and meet 268.48 standards
	D035	Methyl ethyl ketone	L,S	Analytical, Process knowledge	36 and meet 268.48 standards
	D038	Pyridine	L,S	Analytical, Process knowledge	16 and meet 268.48 standards
	F003	Methanol	L,S	Process knowledge	NA
	F005	Methyl ethyl ketone, Pyridine, Benzene, Toluene	L,S	Process knowledge	respectively 36, 16, 10, 10
Hydrostatic Test Shop					
Lead Seals (720-21)	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
Silver plating compound (720-22)	D011	Silver	S	Process knowledge	5.0 mg/l TCLP
Motor Shop					
Waste kerosene & oil (720-23)	D001	Kerosene, oil	L	Process knowledge	DEACT
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
	F001	Trichloroethylene	L	Process knowledge	6.0
	F003	Xylene	L	Process knowledge	30

Table C-1 (continued)

X-720 Maintenance and Stores Building (720)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Motor cleaning solution (720-24)	D006	Cadmium	L	Analytical	1.0 mg/l TCLP
	D008	Lead	L	Analytical	5.0 gm/l TCLP
Paint Shop					
Booth water (720-26)	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D035	Methyl ethyl ketone	L	Analytical, Process knowledge	36 and meet 268.48 standards
	F005	Toluene	L	Process knowledge	10
Cement dust (720-27)	D007	Chromium	S	Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
Paints and thinners (720-28)	D001	Solvents	L	Analytical, Process knowledge	DEACT
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D035	Methyl ethyl ketone	L	Analytical, Process knowledge	36 and meet 268.48 standards
	F002	Methylene chloride	L	Process knowledge	30
	F003	Xylene, methanol, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone	L	Process knowledge	respectively 30, NA, 33, 2.6, NA
	F005	Methyl ethyl ketone, toluene	L	Process knowledge	respectively 36, 10

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Table C-1 (continued)

X-720 Maintenance and Stores Building (720)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Latex paint (720-28B)	D008	Lead	L	Analytical	5.0 mg/l TCLP
Paint sludge and solids (720-29)	D006	Cadmium	S	Process knowledge	1.0 mg/l TCLP
	D007	Chromium	S	Process knowledge	5.0 mg/l TCLP
	D008	Lead	S	Process knowledge	5.0 mg/l TCLP
	D035	Methyl ethyl ketone	S	Process knowledge	36 and meet 268.48 standards
	F005	Toluene	S	Process knowledge	10
Valve Shop					
Oil (720-31)	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D009	Mercury	L	Analytical, Process knowledge	0.20 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
	F001	1,1,1-Trichloroethane	L	Analytical, Process knowledge	6.0
Refrigeration Shop					
Parts cleaning solution (720-34)	D002	Acid	L	Analytical	DEACT and meet 268.48 standards
	D004-11	Metals	L	Analytical	(reference 40 CFR 268.40)
Mixed acids (720-35)	D002	Various acids	L	Analytical, Process knowledge	DEACT and meet 268.48 standards

Table C-1 (continued)

X-750 Garage (750)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil (750-1)	D001	Xylene, methyl ethyl ketone	L	Analytical, Process knowledge	DEACT
	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
	D026	Cresylic acid	L	Analytical, Process knowledge	11.2 and meet 268.48 standards
	D035	Methyl ethyl ketone	L	Analytical, Process knowledge	36 and meet 268.48 standards
	D039	Tetrachloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001	1,1,1-Trichloroethane, Tetrachloroethylene	L	Process knowledge	6.0
	F003	Xylene	L	Process knowledge	30
	F004	Cresylic acid	L	Process knowledge	11.2
	F005	Methyl ethyl ketone	L	Process knowledge	36
Filters (750-2)	D018	Benzene	S	Process knowledge	10 and meet 268.48 standards

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Table C-1 (continued)

X-750 Garage (750)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Solvents (750-3)	D001	Methyl ethyl ketone, xylene	L	Analytical, Process knowledge	DEACT
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
	D035	Methyl ethyl ketone	L	Analytical, Process knowledge	36 and meet 268.48 standards
	D040	Trichloroethylene	L	Analytical, Process knowledge	6.0 and meet 268.48 standards
	F001	1,1,1-Trichloroethane, tetrachloroethylene, trichloroethylene	L	Analytical, Process knowledge	6.0
	F003	Xylene	L	Analytical, Process knowledge	30
	F005	Methyl ethyl ketone	L	Analytical, Process knowledge	36
Gasoline/Diesel Fuel (750-4)	D001	Various ignitables	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
	D007	Chromium	L	Analytical	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards
Antifreeze (750-5)	D010	Selenium	L	Analytical	5.7 mg/l TCLP

Table C-1 (continued)

X-752, X-744G(R), X-744G(U) Hazardous Waste Storage Buildings (Stor)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Solid and liquid cleanup wastes (Stor-1)	All are possible	Varies	S,L	Knowledge of waste spill	(reference 40 CFR 268.40)
X-760 Chemical Engineering Building (760)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Acetone still bottoms, solvents (760-1)	D001	Acetone	L	Analytical, Process knowledge	DEACT
	D007	Chromium	L	Analytical, Process knowledge	5.0 mg/l TCLP
	D008	Lead	L	Analytical, Process knowledge	5.0 mg/l TCLP
	F003	Acetone	L	Analytical, Process knowledge	160
UF_6 analyzer still bottoms (760-3)	D001	Ethanol	L	Process knowledge	DEACT and meet 268.48 standards; or RORGS; or CMBST
Sodium (760-4)	D003	Sodium metal	L	Process knowledge	DEACT
X-770 Mechanical Testing Facility (770)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Mercury waste (770-1)	D009	Mercury	S	Process knowledge	IMERC; or RMERC
Elemental (metallic) mercury (770-1A)	D009	Mercury	L	Process knowledge	IMERC; or RMERC
Mercury solids (770-1B)	D009	Mercury	S	Process knowledge	IMERC; or RMERC
X-1000 Administration Building (1000)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Oil (1000-1)	D018	Benzene	L	Process knowledge	10 and meet 268.48 standards

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Table C-1 (continued)

Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
X-7725 Container Storage Unit (7725)					
Oil (7725-1A)	D006	Cadmium	L	Analytical, Process knowledge	1.0 mg/l TCLP
	D018	Benzene	L	Analytical, Process knowledge	10 and meet 268.48 standards
Oil/debris (7725-1B)	D006	Cadmium	S	Analytical, Process knowledge	1.0 mg/l TCLP
	D018	Benzene	S	Analytical, Process knowledge	10 and meet 268.48 standards
Solid and liquid cleanup (7725-2)	All are possible	Varies	S,L	Knowledge of waste spilled, analytical knowledge	(reference 40 CFR 268.40)
Waste sampling equipment (7725-3)	All are possible	Varies	S	Knowledge of waste sampled, analytical knowledge	(reference 40 CFR 268.40)
Off-Site Treatment Residuals (Ash)					
Waste Stream and Identification Number	Waste Codes	Primary Constituents	Physical Form	Basis for Characterization	Treatment Standards for Hazardous Waste[1]
Ash (Ash-1)	To be deter-mined	Varies	S	Analytical, Process knowledge	(reference 40 CFR 268.40)

[1] Concentration in mg/kg unless noted as "mg/l TCLP"; or Technology Code.
L = Liquid
S = Solid
G = Gas

Table C-2
Waste Analysis Plan

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Decontamination water, purge water and well development water	Visual Inspection	20% of containers.	Verification of waste description
ER-1	pH Selected Volatile Organic Carbon (VOC) compound determination Trichloroethylene 1,1,1-Trichloroethane	10% of containers.	Selected monitoring wells are sampled on a quarterly basis. Contaminant concentrations based on groundwater sampling results. Hazardous waste derived from listed waste in OAC 3745-50-31 (40 CFR 261.31). Parameters represent positive results from Appendix VIII analyses. Treatment required to meet regulatory limits in OAC 3745-50-31 (40 CFR 268.41).
	Chemical composition and waste properties	As required for TSD acceptance.	Determine chemical concentrations and waste properties for disposal
Closure wastes/ cleanup wastes	Visual Inspection	20% of containers.	Verification of waste description
700-1 ER-9 ER-10	TC test for metals TC test for organic constituents	In accordance with approved closure plan.	Determine hazardous characteristics
SW-14A SW-14B SW-17 SW-18 SW-19	VOC determination F001-F005 solvents	In accordance with approved closure plan	Determine waste constituents
	Chemical composition and waste properties	As required for TSD acceptance.	Treatment required to meet regulatory limits in OAC 3745-50-31 (40 CFR 268.41)

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Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Drill cuttings (soil) ER-3	Visual Inspection	20% of containers.	Verification of waste description
	TC test for metals	Samples collected during well/bore hole installation.	Determine hazardous characteristics
	VOC determination Trichloroethylene 1,1,1-Trichloroethane	Samples collected during well/bore hole installation	Hazardous waste derived from listed waste in OAC 3745-50-31 (40 CFR 261.31).If any VOC analyte exceeds regulatory values in OAC 3745-59-41 and 43 (40 CFR 268.41 and 284.43). Treatment required to meet regulatory limits in OAC 3745-59-41 (40 CFR 268.41).
	Chemical composition and waste properties	As required for TSD acceptance.	Determine chemical concentrations and waste properties for disposal Land disposal if all VOC analytes are less than regulatory values in OAC 3745-59-41 and 43 (40 CFR 268.41 and 268.43).
Contaminated debris (rags, PPE, etc.) ER-2	Visual Inspection	20% of containers.	Verification of waste description.
	Chemical composition and waste properties	As required for TSD acceptance.	Wastes are PPE and rags used during well installation and sampling. Contaminants are based on groundwater sampling results.
	VOC determination Trichloroethylene 1,1,1-Trichloroethane Refridgerant-113	As required for TSD acceptance.	Hazardous waste derived from listed waste in OAC 3745-50-31 (40 CFR 261.31). If any VOC analyte exceeds regulatory values in OAC 3745-59-41 and 43 (40 CFR 268.41 and 284.43). Treatment required to meet regulatory limits in OAC 3745-59-41 (40 CFR 268.41).
(All groundwater related wastes[b])	Uranium Technetium		Determination of radioactive constituents. OAC 3745-59-41 and 43 (40 CFR 261.31).
Discarded light bulbs SW-5 SW-5A SW-5B SW-5C	Visual Inspection	20% of containers.	Verify waste description.
	Test for metals Mercury Lead	Process changes.	Verify waste description.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine component concentrations for disposal.
	Uranium Technetium		Determine radioactive constituents.

Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Metallic mercury wastes and clean-up debris Cascade-7 Cascade-7A Cascade-7B Pump-1 Switch-3 608-1 608-3 611-2 700-11 705-8 720-3 770-1 770-1A 770-1B 700-14 710-7	Visual Inspection Test for metals Mercury Chemical composition and waste properties Uranium Technetium	20% of containers. 10% of containers. As required for TSD acceptance.	Verify waste description. Determine component concentrations for disposal. Determine radioactive constituents.
Process and machine coolants SW-6 SW-10 720-15 710-6 750-5	Visual Inspection pH Test for metals. Test for organic constituents Chemical composition and waste properties Uranium Technetium	20% of containers. 10% of containers. 10% of containers. As required for TSD acceptance.	Verify waste description. Verify waste description. Container and waste compatibility. Determine component concentrations for disposal. Determine radioactive constituents.
Nonhalogenated solvents Cascade-2 SW-8 SW-9 343-1 344-2 700-9 705-5 710-3 710-8 720-10 720-19 750-3 750-4 760-1	Visual Inspection Flash Point Test for metals Test for organic constituents Selected VOC determination Mineral spirits Naphtha Acetone Benzene iso-Butyl alcohol n-Butyl alcohol Methyl ethyl ketone Methyl isobutyl ketone Cresylic acid Chemical composition and waste properties Uranium Technetium	20% of containers. 10% of containers. 10% of containers. As required for TSD acceptance.	Verification of waste description. Verify waste description. Determine hazardous characteristics of waste and proper waste segregation. Determine component concentration for disposal. Determine radioactive constituents.

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Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Halogenated solvents ER-6 344-2 600-1 700-2 700-9 710-3 720-4 720-12 750-3	Visual Inspection	20% of containers.	Verification of waste description.
	Flash Point	10% of containers.	Determine hazardous characteristics and proper waste segregation.
	Selected VOC determination Trichloroethylene 1,1,1-trichloroethane Refridgerant-113	10% of containers.	Determine waste constituents.
	Test for metals	10% of containers.	Determine component concentration for disposal.
	Chemical composition and waste properties	As required for TSD acceptance.	
	Uranium Technetium		Determine radioactive constituents.
Granular activated carbon filters ER-5A ER-5B 700-4	Visual Inspection	20% of containers.	Verify waste description.
	Selected VOC determination Trichloroethylene 1,1,1-Trichloroethane	10% of containers.	Verify waste description.
	Test for metals TC test for organic compounds Benzene	10% of containers.	Verify waste description and proper waste segregation.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine component concentrations for disposal.
	Uranium Technetium		Determination of radioactive constituents.
Chemical cleaning and decontamination solutions Cascade-3 700-7 700-8 705-1	Visual Inspection	20% of containers.	Verify waste description.
	pH Test for metals Test for organic constituents	10% of containers. 10% of containers.	Verify waste description. Determine characteristics of waste. Proper waste segregation.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine component concentrations for disposal.
	Uranium Technetium		Determine radioactive constituents.
Cleaning compounds SW-12 720-7 720-24	Visual Inspection	20% of containers.	Verify waste description.
	pH Test for metals	10% of containers.	Verify waste description and proper segregation of wastes.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine component concentrations for disposal.
	Uranium Technetium		Determination of radioactive constituents.

Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Contaminated debris (rags, wipes, floor sweepings, waste brass, canvas cooling tower curtain, bag filters, incinerator ash, filter cake, glass beads, metal shavings, wood, rubber and decontaminated waste solids) Ash-1 705-9 Cascade-6 705-10 Pump-2 705-11 Stor-1 710-10 SW-2 720-2 SW-3 720-17 SW-16 7725-1B 342-1 7725-2 616-2 7725-3 700-3 700-5 705-2 705-3 705-7	Visual Inspection Test for metals Test for organic compounds Selected VOC determination 1,1,1-Trichloroethane Acetone Methyl ethyl ketone Toluene Xylene Cresylic acid Chemical composition and waste properties Uranium Technetium	20% of containers. As required for TSD acceptance.	Verify waste description. Verify waste description and proper waste segregation. Determine component concentration for disposal. Determine radioactive constituents.
Degreasing operations 700-12 720-13 705-16	Visual Inspection Test for metals Test for organic compounds Selected VOC determination 1,1,1-Trichloroethane Acetone Refridgerant-113 Toluene Xylene Cresylic acid Chemical composition and waste properties Uranium Technetium	20% of containers. 10% of containers. As required for TSD acceptance.	Verify waste description. Verify waste description and proper segregation of wastes. Determine component concentrations for disposal. Determine radioactive constituents.
Gas Cylinders SW-7	Acetylene Chlorine Trifluoride Hydrogen Cyanide		Reuse. Treatment by technology specified in OAC 3745-59-42 (40 CFR 268.42) and to standards specified in OAC 3745-59-41 to 43 (40 CFR 268.41 to 268.43).

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Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Etching wastes SW-13	Visual Inspection	20% of containers.	Verify waste description.
	Test for metals Test for organic compounds Corrosivity Ferric chloride solution pH	10% of containers. 10% of containers.	Verify waste description. Proper segregation of wastes. Knowledge of materials used in process areas, MSDS. Verify waste description. Proper segregation of wastes.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine component concentrations for disposal.
	Flash point Ethyl alcohol solution Selected VOC determination Ethyl alcohol	10% of containers.	Listed hazardous waste per OAC 3745-50-33 (40 CFR 261.33). Treatment required to meet technology standards cited in OAC 3745-59-42 (40 CFR 268.42) for high TOC subcategory.
	Chemical composition and waste properties	As required for TSD acceptance.	
	Selected VOC determination 1,1,1-Trichloroethane Trichloroethylene Xylene	10% of containers.	
	Chemical composition and waste properties	As required for TSD acceptance.	
	Uranium Technetium		Determination of radioactive constituents.
Electrical test wastes 720-20	Visual Inspection	20% of containers.	Verify waste description.
	Flash point Test for metals Test for organic materials Selected VOC Determination Chloroform Methanol	10% of containers.	Verify waste description. Proper waste segregation.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine waste properties and chemical concentration for disposal.
	Uranium Technetium		Determination of radioactive constituents.

Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Vent sampling wastes[c] Ethanol solution Cascade-1 760-3	Visual Inspection	20% of containers.	Verify waste description.
	Uranium Technetium		Determine radioactive constituents.
	pH Flash point Test for metals Test for organic compounds	10% of containers.	Verify waste description. Proper segregation of wastes.
	Selected VOC determination Ethanol	10% of containers.	Verify waste description.
	Chemical composition and waste properties	As required for TSD acceptance.	Verify waste description. Proper waste segregation
Indicator solution Cascade-1	Visual Inspection	20% of containers.	
	pH test for metals test for organic compounds	10% of containers.	
Trap Material Cascade-10	No additional visual inspection		Health and safety concerns
	Uranium Technetium Test for metals	10% of containers	Verify waste description.
Discarded laboratory chemicals and industrial products SW-1 SW-1A SW-1B SW-11 SW-11A SW-11B 705-12 720-22	Visual Inspection	All containers.	Verify waste description.
	Characteristic compounds or solutions	Not analyzed.	Knowledge of materials based on containers labels and/or MSDS.
	Compounds listed in OAC 3745-51-33(E) and (F) [40 CFR 261.33(e) and (f)]	Not analyzed.	Knowledge of materials based on containers labels and/or MSDS.
Lead related debris Switch-1 104-1 104-2 104-3 720-21	Visual Inspection	20% of containers.	Verify waste description.
	pH Test for metals Lead	10% of containers with liquids.	Proper waste segregation.
	Chemical composition and waste properties	10% of containers.	Determine chemical concentrations and waste properties.
	Uranium Technetium	As required for TSD acceptance.	Determination of radioactive constituents.

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Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Oil/solvent Cascade-4 Cascade-5 ER-4A ER-4B Pump-3 Switch-2 100-4 344-1A 344-1B 600-2 608-2 611-1 616-1 700-10 700-13 705-4 705-15 710-1 720-1 720-8 720-11 720-16 720-23 720-31 750-1 750-2 7725-1 7725-1A	Visual Inspection Flash point Test for metals Cadmium Chromium Lead Test for organic compounds Selected VOC determination Acetone Carbon Tetrachoride Methyl ethyl ketone Methylene chloride Mineral spirits Tetrachloroethylene Toluene Trichloroethylene 1,1,1-Trichloroethane Trichlorofluoromethane Xylene Cresylic acid Chemical composition and waste properties Uranium Technetium	20% of containers. 10% of containers. 10% of containers. As required for TSD acceptance.	Verify waste description. Verify waste description. Proper waste segregation. Verify waste description. Proper waste segregation. Determine component concentrations for disposal. Determination of radioactive constituents.
Paint related materials 720-26 720-27 720-28 720-28B 720-29	Visual Inspection Flash point Test for metals Lead Test for organic compounds Selected VOC determination Acetone iso-Butyl alcohol n-Butyl alcohol Methanol Methyl ethyl ketone Methyl iso-butyl ketone Mineral spirits Naphtha Toluene Trichloroethylene Xylene Chemical composition and waste properties Uranium Technetium	20% of containers. 10% of containers. 10% of containers. As required for TSD acceptance.	Verify waste description. Verify waste description. Proper waste segregation. Verify waste description. Determine component concentrations for disposal. Determine radioactive constituents.

Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Personal protective equipment 600-3 616-3	Visual Inspection	20% of containers.	Verify waste description.
	Test for metals Arsenic Test for organic compounds Selected VOC determination 1,1,1-Trichloroethane Trichloroethylene	10% of containers.	Verify waste description. Proper waste segregation.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine properties and composition for disposal.
	Uranium Technetium		Determine radioactive constituents.
Photographic solutions (includes x-ray development) 100-3 100-6 101-2 Cascade-8	Visual Inspection	20% of containers.	Verify waste description.
	pH Test for metals Metals determination Silver	10% of containers.	Verify waste description.
	Chemical composition and waste properties	As required for TSD acceptance.	Determine waste properties and composition for disposal.
Batteries SW-4 SW-4A SW-4B SW-4C SW-4D	Visual Inspection	20% of containers.	Verify waste description.
	pH Test for metals Cadmium Lead	As necessary.	Verify waste description. Proper waste segregation.
Plating wastes 720-5 720-6 710-5	Visual Inspection	20% of containers.	Verify waste description.
	pH Test for metals Cyanide	10% of containers.	Knowledge of materials used in process areas; product MSDS. Proper waste segregation.
	Chemical composition and waste properties.	As required for TSD acceptance.	Determine component concentrations for disposal.
	Discarded materials Copper cyanide Silver cyanide Sodium cyanide	All containers.	Verify waste description. Knowledge of materials used in process areas; product MSDS. Proper waste segregation.
	Uranium Technetium		Determine radioactive constituents.
Waste Sodium 760-4	Visual Inspection	20% of containers.	Verify waste description.
	Reactive hazardous waste sodium		Verify waste description. Proper waste segregation.

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Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Printing wastes 100-1 100-2 100-5	Visual Inspection Flash point Test for metals Test for organic materials Selected VOC determination Naphtha 1,1,1-Trichloroethane Chemical composition and waste properties	20% of containers. 10% of containers. 10% of containers.	Verify waste description. Verify waste description. Proper waste segregation. Determine component concentration for disposal.
Cleaning solution 343-2 344-5 600B-2 720-34	Visual Inspection pH Flash Point Test for Metals Test for Organic Materials Chemical Composition and Waste Properties	20% of containers 10% of containers	Verify waste description Verify waste description Proper waste segregation Determine component concentration for disposal
Spent chemicals and products 710-2 710-2A 710-2B 710-9 720-35	Visual Inspection pH Test for metals Test for organic materials Chemical composition	20% of containers 10% of containers	Verify waste description Verify waste description Proper waste segregation Determine component concentration for disposal
Soil from Non-ER Activiites SW-20	Visual Inspection Test for metals Test for organic materials Chemical composition	20% of containers 10% of containers	Verify waste description Verify waste description Proper waste segregation Determine component concentration for disposal
Office Machine Waste 100-7	Visual Inspection Chemical composition and waste properties	20% of containers Not analyzed	Verify waste description Knowledge of materials based on manufacturers information, MSDS, and process knowledge
Silver Recovery Solids 100-9	Visual Inspection Test for metals Chemical composition and waste properties	20% of containers 10% of containers	Verify waste description Verify waste description Proper waste segregation Determine component concentration for disposal

Table C-2 (continued)

WASTE STREAM TYPE AND IDENTIFICATION NUMBER	PARAMETERS	FREQUENCY OF ANALYSIS (Annual)	RATIONALE[a]
Rinsewaters, decon waters, Wastewater (miscellaneous)	Visual Inspection	20% of containers.	Verify waste description.
ER-7 ER-8 SW-21 342-2 342-3 700-6	pH Test for metals Arsenic Cadmium Chromium Lead Test for organic compounds	10% of containers.	Verify waste description. Proper waste segregation.
	Chemical composition and waste properties.	As required for TSD acceptance.	Determine waste properties and component concentrations for disposal.
	Uranium Technetium		Determine radioactive constituents.

a The rationale correlates to the purpose or reason that specific parameters are analyzed.

b All hazardous wastes that are generated in areas where it can be reasonably be expected to be in contact with radioactive materials will be analyzed for those constituents. If contact with radioactive constituents is not expected, the waste will be spot checked for those constituents.

c This waste stream is generated from sampling the purge vents and recovery vents associated with the gaseous diffusion process. As a result, this waste stream will be managed as a mixed (hazardous and radioactive) waste prior to receiving analytical data.

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Section D

Containers

D-1 Containers

D-1A Containers With Free Liquids [3745-55-75]

The physical form of the wastes that are managed in the hazardous waste storage units was described in Section C-1. In general, the waste form can be described as either solid, liquid or sludge. For the purpose of storage unit design and construction, all RCRA storage areas within X-7725 and X-326 meet the requirements for storage of containers with free liquids. Thus, all wastes are stored within a secondary containment system. All floors are sealed with a coating which is impervious to attack by all wastes listed in Section C and the base is free of cracks or gaps.

D-1A(1) Description of Containers [3745-55-71, 3745-55-72]

Information describing the containers used to store waste at the facility is provided in Table D-1. This information includes the dimensions and useable volume, type, material of construction, DOT or other specification, and the approximate number of each type of container on hand.

Most containers used in the storage areas are new. When possible, to minimize waste, polyethylene 10-liter polybottles, 20-gallon labpacks, and 55-gallon polyethylene drums are reused for waste storage after being emptied. Prior to their reuse, however, they are cleaned, decontaminated, and visually inspected to ensure no residue from past use remains.

All containers are labeled or marked with, at a minimum, the words "hazardous waste", the accumulation start date, and the identity of the container contents. Example labels are shown in Figures D-4 and D-5. Container identification numbers and/or bar code labels are applied to the containers for identification and tracking purposes. Other labels and markings are applied as applicable and required.

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D-1A(2) Container Management Practices [3745-55-73]

Container Information

As discussed in Section C-1, waste generators use process knowledge and standard operating guidelines to select the proper container and ensure material compatibility. PORTS uses various sizes of bottles, pails, cans, drums, and boxes which may be made of steel, stainless steel, glass, or polyethylene. Wastes are typically placed in appropriate DOT specification drums or other containers listed in Table D-1. Corrosive liquids are generally stored in polyethylene drums. Polyethylene liners are used in metal containers for waste solids which may tend to corrode drums over extended periods of storage (e.g., radioactive hazardous sludge from wastewater treatment processes). Storage of waste in compatible five gallon containers is practical to ensure nuclear criticality safety. Glass containers of various sizes are used to contain discarded commercial chemicals packaged by the manufacturer/supplier.

In the unlikely event that an orphaned container is found onsite, the contents are analyzed to determine proper container compatibility and possible recontainerization of the wastes. Orphaned containers are isolated from other containers in the staging area until their contents are determined and compatibility issues resolved.

In addition, procedures are in place requiring the review of new processes, modification to existing processes, emergency response actions generating waste, or repackaging of existing waste containers. These procedures require review of the container selection by qualified personnel to ensure the proper containerization of these waste streams. The generator of a hazardous or mixed waste is responsible for ensuring the waste container is marked with the words "hazardous waste", the accumulation start date and the identity of the container contents. All containers are kept closed while in the container storage units except when it becomes necessary to sample the container for analytical purposes or during corrective actions. Additional information concerning container selection is provided in Section C.

Movement of Containers

A waste generator at PORTS begins the process for disposal of wastes by filling out the generator portion of the request for disposal (RFD) form which bears a unique identifying number. This number is also placed on the waste container(s). Several versions of the form have been used, and the most recent version is shown in Figure D-6. The generator portion of the form identifies the generator, the waste materials type and form, the type of waste container, accumulation start date and labels affixed to the container.

Upon receipt of the RFD, qualified personnel review the information provided by the generator for completeness, approve the waste for transportation, and designate the storage location of the waste. If there are deficiencies regarding incomplete information or other questions about the waste, the generator is contacted to obtain resolution to all deficiencies and questions prior to approving the waste for transportation to the storage facility. Following approval, the RFD is returned to the generator for transportation of the waste to the designated storage facility.

After receiving approval, the waste is transported to the designated storage facility according to procedures designed to minimize potential spills or releases. Upon arrival at the storage facility, qualified personnel will inspect the waste containers for container integrity, check the container identification numbers against the approved RFD, off-load and weigh the containers, and place the waste containers in the appropriate storage area or in the staging area if further sampling is required. The qualified personnel will sign the RFD as having received the waste. In addition, the container is identified with a container identification number and/or a bar code label for use in inventory control. Completed RFD forms are distributed to the waste generator, the container storage unit, and to the operating record.

Waste container movements within the container storage units are accomplished with a barrel truck, polybottle cart, forklift, barrel lift, a forklift with a barrel attachment, or on a pallet (up to 4 drums per pallet) with a forklift. The choice of conveyance is based on the minimization of potential spills or releases. Containers may also be moved by overhead cranes or movable gantry cranes utilizing barrel hooks or lifters within an individual storage area. Containers are kept in an upright position except as necessary during repackaging operations. Ramps over diking are provided to ensure the integrity of the dikes is maintained, and to facilitate the safest movement of containers.

Container Inspection

Inspection of waste containers occurs when the container is received in the staging area and prior to transport to its storage area. All containers within storage areas and staging areas within the container storage units are inspected at least weekly. Daily inspections are conducted in areas of loading and unloading operations. Results of the inspections, as well as any required corrective actions, are recorded on an inspection log sheet and filed in the operating record. Corrective actions may include the transfer of the waste to a container in good condition or overpacking the defective container into a larger container in good condition. Corrective actions for defective containers are taken as soon as possible and always initiated within 24 hours of discovery. See Section F for additional information.

Management Practices

Adequate aisle space is maintained between adjacent double rows of waste containers to allow visual container inspections, necessary emergency response actions, and conduct of routine operations. Geometrically subcritical containers (i.e., containers with diameters less than six inches) in X-326 storage areas and X-7725 areas P and 4a will have a minimum of 18 inches between containers. Single drums with high uranium content in these areas will have a minimum aisle space of 22 inches between containers. The minimum aisle space between single or double rows of all containers is 28 inches. Typical arrangements are shown in Appendix D-1 [Drawings DX761-997-A and X-7725-970-S]. Maximum stack height of various containers and materials are given in Table D-2. These stacking heights are designed to ensure container integrity.

The maximum number of containers of each type expected to be stored is given in Tables D-3 and D-4. The maximum storage volumes are 133,540 gallons and 5,456,142 gallons for X-326 and X-7725 respectively. These volumes are discussed in more detail in Section D-1A(3)(c).

D-1A(3) Secondary Containment Systems Design and Operation [3745-50-44(C)(1)(a), 3745-55-75(A) and (D)]

Figures D-1 through D-3 provide plan views of the container storage area. Design and profile drawings for each of these areas are contained in Appendix D-1. For the X-326 Storage Unit, drawing number DX-761-997-A illustrates the following information:

- location and horizontal extent of each storage area.
- plan view of limits of containment systems and access ramps for each area.
- profile details of typical dike and access ramp details.

As the floor of the X-326 Storage Unit is essentially level, no elevation (profile), drawing of the floor is provided.

For the X-7725 Storage Unit, drawings X-7725-971-S through X7725-973-S present typical plan and profile details regarding containment system aspects such as curbing; access ramps; repair of floors, expansion/control joints, cracks; and other pertinent details. Drawings X-7725-974-S through X-7725-997-S provide the following details for each of the 22 areas within building X-7725:

- key plan for each area.
- plan view of limits of containment system and access doors and ramps for each area.
- floor coating details.
- floor penetration isolation details.

As the two levels of the X-7725 Storage Unit are essentially flat, no elevation (profile) drawings of the floors are provided.

Flammable wastes are stored in areas H, M, and P in building X-7725, shown in Figure D-1, and in the X-326 unit. Incompatible wastes could be stored in all areas if separated by a dike, wall, berm, or other device such as a polyspill pallet. Containers having these wastes will also be located a minimum of one aisle width away from each other and will not be stored in the same row. For example, cyanide wastes are not stored in the same row of containers with any container having a waste with a pH less than six. Sodium wastes are stored in containers filled with organic liquids such as kerosene. Additional segregation is provided by the use of spill containment pallets for most liquid waste containers.

D-1A(3)(a) Requirements for the Base or Liner to Contain Liquids [3745-55-75(B)(1)]

The base structure of both the X-7725 and the X-326 Container Storage Units are constructed from concrete and are free of cracks and gaps. Rough or spalled areas of the floor have been repaired with a polymer modified Portland cement. Cracks in the floor have been sealed with a modified methacrylate crack healer/penetrating sealer, or an epoxy injection adhesive as appropriate for the number and size of the cracks. Expansion joint gaps have been filled with a polyurethane elastomeric sealant. Control joint gaps have been filled with a flexible epoxy control joint sealer/adhesive. Typical construction details regarding this work are provided in Appendix D-1, drawing numbers X-7725-971-S through X-7725-973-S. The concrete floor would be expected to have a permeability in the range of 1×10^{-7} cm/sec with this treatment. To further ensure the base is capable of containing any liquids which may accumulate and to enhance compatibility of the base with the stored waste, the concrete surfaces in all storage areas have been sealed with a chemically resistant sealant. This sealant is compatible with all waste types listed in Section C. The Tennant Company 4700 series coating was used to seal storage areas on the first floor of X-7725. The Starglaze sealant, made by the Carboline Company, was used on the level IV storage areas in X-7725. Tennant 122 was used in the X-326 storage areas.

The floor of the X-326 Building consists of a six-inch concrete slab reinforced with 6 x 6 welded wire fabric (drawing DX761-997-A, Appendix D-1). The slab was placed over an engineered fill of at least one foot in depth. Design allowable floor loading is 550 pounds per square foot (psf) with a calculated 3.0 factor of safety. The maximum expected loading for the unit is 165 psf based on 85 gallon drums stacked one high.

The floor of the X-7725 consists of a concrete slab varying in thickness from 6 inches to 17 inches reinforced with #4 tempered steel on 15-inch outside centers each way. The slab is underlain by a compacted granular fill of at least two feet thick. Design allowable floor loading varies for both levels I and IV of the X-7725 Unit. The design loadings for level I have a calculated 2.5 factor of safety and the design loadings for level IV have a calculated 1.7 factor of safety. Minimum design loading values are 675 psf for level I and 200 psf for level IV. The maximum expected loading for level I is 653 psf based upon a worst case loading of 4' x 4' x 6' boxes stacked four high. The maximum expected loading for level IV is 128 psf based on 55 gallon drums stacked one high.

D-1A(3)(b) Containment System Drainage [3745-50-44(C)(1)(a)(ii), 3745-55-75(B)(2)]

The containers in X-7725 and X-326 container storage areas are elevated to protect them from contact with any accumulated liquids resulting from potential leaks or spills. The containers will be elevated through the use of containment pallets, wooden or metal pallets, metal rails, metal shelving (for laboratory chemicals) or polybottle holders. Typical storage arrangements are shown in Appendix D-1 [drawings DX-761-997-A and X-7725-970-S].

D-1A(3)(c) Containment System Capacity [3745-50-44(C)(1)(a)(iii), 3746-55-75(B)(3)]

The containment capacity provided for the storage areas in the X-7725 and the X-326 storage units, is adequate to contain 10 percent of the total waste volume stored and 25 percent where TSCA wastes are stored. Specifically, the X-326 container storage unit has a design capacity of 133,540 gallons and a containment capacity of 13,452 gallons or 10.1 percent. The X-7725 container storage unit has a design capacity of 5,456,142 gallons and a containment capacity of 711,450 gallons or 13.0 percent. Containment capacities and the maximum storage capacity of each storage area in the container storage units and supporting calculations, including area, volume and displacement volume, are provided in Table D-5. Detailed drawings are shown in Appendix D-1 [drawings DX-761-997-A and X-7725-971-S through X-7725-997-S]. These drawings provide information on the layout of the container storage units; including containment systems dimensions, typical container arrangements, structures which reduce containment volume, and diking dimensions.

D-1A(3)(d) Control of Run-on [3745-50-44(C)(1)(a)(iv), 3745-55-75(B)(4)]

Both the X-326 and X-7725 container storage areas are totally enclosed within buildings. Roof and wall design features, which provide protection from precipitation, are shown in Appendix D-1 [drawings X-326-13-A, X-326-23-A, X-7725-0011-C, and X-7725-0601A]. Thus, no provisions for run-on control are required. Further, totally enclosed secondary containment devices are in use at both X-326 and X-7725. Therefore, no capacity for run-on need be provided by the secondary containment systems.

Surface water flow in the area of the container storage units is shown in Section B (Figures B-3 through B-6). Thunderstorms are common from April to August and locally heavy rains may accompany these storms. The 24-hour totals of 2.2, 2.8, 3.1, 3.6, 4.0 and 4.3 inches of rain can be expected every 2, 5, 10, 25, 50, and 100 years, respectively. The stormwater drainage system design is sufficient to handle this run-off. Thus, no flooding (run-on) is anticipated to occur with design storm events of 100 years or less.

D-1A(3)(e) Removal of Liquids from Containment System [3745-50-44(C)(1)(a)(v), 3745-55-75 (B)(5)]

All the storage areas are completely enclosed. Exclusive of roof leaks and fire water sprinkler system leaks handled under separate procedures, any liquid present within the secondary containment systems would be from spilled or leaked hazardous waste. Since the storage areas are inspected weekly, any leak or spill would be discovered in a timely manner eliminating the potential for overflow of the containment system.

Should a leak or spill occur, various procedures are followed depending on the quantity of waste released. Small releases are removed by mops, absorbents, and shovels; the residue is placed in containers; treated as a hazardous waste and analyzed if required. For larger releases, initial removal of the material would be through the use of electric powered industrial wet/dry barrel vacuum, electric drum pumps, and/or air powered diaphragm pumps. Then absorbents or mops are used as required for removal. All recovered material would be recontainerized in containers listed in Table D-1, treated as a hazardous waste, and analyzed, as required. The Contingency Plan, (Section G) will be implemented if there is a threat to human health or the environment. All powered equipment used for emergency response purposes in the storage units for flammable materials meet the Class 1 - Division 1 codes of the NFPA fire prevention standards.

Other non-leaking containers in the area of a spill should not come in contact with the spilled material since they are elevated. Containers which do contact the spilled material would be lifted with a barrel lift or a crane and barrel hooks, and cleaned. Clean-up material is handled as hazardous waste as noted previously.

D-1B Containers Without Free Liquids [3745-50-44(C)(1)]

All hazardous wastes in the container storage units are stored within the containment system described in D-1A(3)(c).

D-2 Tank Systems Through D-8 Miscellaneous Units

PORTS is not applying for an operating permit for a tank system, a waste pile system, a surface impoundment, an incinerator, a landfill, or any other type of land treatment system to treat, store or dispose hazardous waste.

Table D-1
Container Information

Volume	Type	Material	Dimensions[1]	Specification	Thickness	Approx. No. Containers on-hand (000)
110 Gal.	Drum	Steel	30"id, 41"ih	49 cfr 178 Subpart d	16 gauge	4.5
85 Gal.	Drum	Steel	26"id, 36.375"ih	49 cfr 178 Subpart d	16 gauge	2.6
55 Gal.	Drum	Steel Steel ss[2] ple[3]	22.5", 35" ih 22.5"id, 35"ih 22.5"id, 35"ih 22.5"id, 35"ih	HM181,1A2 DOT17c,h,e DOT17c,e DOT34	16 16 & 18 gauge	5 20. 1. 5.
1,2,13, 30 Gal.	Drum	ple	18.5"id, 29.75"oh (typical, 30 gal.)	DOT34	.1875"	2.
30 Gal.	Drum	Steel ple	18.25"id, 29"oh 18.5"id 31.875"oh	DOT17h DOT34	.18"	5. 2.
20 Gal.	Drum	ple	21.25"id, 17.5"oh	49cfr 178 Subpart d	.1875"	2.
5 Gal.	Pail	Steel ple	11.25"id, 13"oh	DOT17c,e DOT34	0.2"	2. 1.
10 Liter (2.64 Gal.)	Bottle	ple	5"id, 50"ih	Drawing no.: DX-761-2340-M	.195"	2.
1.70 Gal.	Can	Tin	5"id *15"ih	Drawing No.: DX-761-2331-M	.010" Head .015" Body	0.5
83.7 Cu. Ft.	Box	Steel	4' X 4' X 6'	Drawing No.: DX-761-2265-M liner-10mil ple	12 Gauge	0.5
96 Cu. Ft.	Box	Steel	4' X 4' X 6'	49 cfr Subpart d	12 Gauge	0.2
275 Cu. Ft.	Box	Steel	6' X 6' X 8'	Drawing No.: DX-761-2286-M	12 Gauge	0.2
Various	Cylinder	Steel	Various	49 cfr 178 Subpart c	Various	0.01
Various	Bulk	Stainless Steel	Various	49 cfr 178 Subpart h	Various	0.01
Various	Bottle	Glass	Various	N/A	Various	40

1) id-inside diameter, od-outside diameter, ih-inside height, oh-outside (overall) height.
2) ss-stainless steel
3) ple - polyethylene

Table D-2
Maximum Container Stacking Heights

Material	Container Type	Stacking Height	Aisle Space
Solids	110 gallon drums	2 high	28"
Solids	85 gallon drums	2 high	28"
Overpacked solids	85 gallon drums	2 high	28"
Solids[1]	55 gallon drums	3 high	28"
Liquids	55 gallon drums	1 high	28"
Solids	30 gallon drums	3 high	28"
Liquids	1,2,13,30 gal. drums	1 high	28"
Liquids	20 gallon labpacks	5 high	28"
Liquids	5 gallon containers	1 high	28"
Liquids	10 liter polybottles	1 high	28"
Solids	5" cans	1 high	28"
Solids	4' x 4' x 6' boxes	4 high	28"
Solids	6' x 6' x 8' boxes	2 high	28"
Chemicals	laboratory bottles	1 layer per shelf	
Gas	cylinder	1 high	28"
Liquids	bulk containers	1 high	28"

NOTE:

1. Top level of stack is banded (non NCS wastes).

Table D-3
Maximum Number of Containers, X-326 Unit

Container Volume	Maximum Number
85 gallon	1,570
55 gallon	2,400
30 gallon	2,450
20 gallon	2,450
5 gallon	2,450
2.47 gallon (polybottle)	3,000
1.7 gallon	3,000

Table D-4
Maximum Number of Containers, X-7725 Unit

Container Volume	Maximum Number
110 gallon	45,000
85 gallon	60,000
55 gallon	99,000
30 gallon	100,000
20 gallon	100,000
13 gallon	4,500
2 gallon	4,500
1 gallon	4,500
5 gallon	10,000
10 liter	10,000
1.7 gallon	10,000
83.7 cu. ft.	3,400
96 cu. ft.	3,400
275 cu. ft.	750
glass bottles	50,000
cardboard boxes	20,000
gas cylinders	1,000

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Table D-5
X-7725 Container Storage Unit - Secondary Containment Calculations

Basis for Calculations

Curb Height:

Area M has 8-inch high curbs.
Area 4A and P have 1-inch high curbs.
All other areas have 6-inch high curbs.

Container Displacement

Curb height = 6 inches
Displacement Volume for Containers:

Drums on metal pallet	= 8 gallons displaced
Drums on wooden pallet	= 13.72 gallons displaced
Drums on polyspill pallet	= 19.95 gallons displaced

Therefore, worst case displacement volume is for four 55-gallon drums on a polyspill pallet. This displacement volume will be used in containment calculations for all areas except Areas A, P, M, and 4A. Containment calculations for area A are based on the storage of 1600 4' X 4 'X 6' boxes in this area. 600 of these boxes may also contain PCBs and require a minimum containment volume of 25%. The displacement volume of a 4' X 4' x 6' box is 5.05 cubic feet.

Area Requirement

The area requirement for a polyspill pallet and the required minimum aisle space of 28 inches is:

polyspill pallet = 49.5 in. X 49.5 in.	= 2450.25 sq. in.
	= 17.02 sq. ft
aisle space = 49.5 in. X 28. In.	= 1386 sq. in.
	= 9.63 sq. ft.
Total area required = 9.63 + 17.02	= 26.65 sq. ft.

ble D-5 (continued)

X-7725 Storage Area 4A

Area bounded by column lines B4-C8 &23-27
Drawing X-7725-966-S Revision I

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
254.50	67.33	17135.49

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	24.00	1.67	40.08	0.04
	1.00	21.25	1.67	35.49	0.04
	6.00	4.00	3.33	79.92	0.04
c. Curb	1.00	36.33	18.50	672.11	0.08
Offsets:	1.00	24.00	1.67	40.08	0.08
	1.00	25.17	4.50	113.27	0.08
	1.00	5.00	4.00	20.00	0.08
	1.00	4.50	8.25	37.13	0.08
	1.00	99.38	4.50	447.21	0.08
	1.00	13.63	41.92	571.37	0.08
	1.00	7.00	11.33	79.31	0.08
	1.00	25.00	7.67	191.75	0.08
	1.00	27.50	3.33	91.58	0.08
	1.00	16.50	14.33	236.45	0.08
	1.00	2.33	3.50	8.16	0.08
d. Misc:	1.00	1.25	1.25	1.56	0.08
	1.00	1.50	2.75	4.13	0.08
e. Column Piers:	6.00	2.50	3.50	52.50	0.08

3.	Net usable floor area (sf):	14413.42
4.	Pallet area required =	51.48 sf
5.	Curb height - 1 inch =	0.083 feet
6.	Maximum number of pallets =	279.98
7.	Maximum volume stored =	61595.81 gallons
		8234.73 cubic feet
8.	Net containment volume =	1196.31 cubic feet
		8948.43 gallons
9.	Total pallet displacement volume =	2781.17 gallons
		371.81 cubic feet
10.	Actual containment volume =	10106.23 gallons
		824.5 cubic feet
11.	Containment volume required =	6159.58 gallons
		823.47 cubic feet

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Table D-5 (continued)

X-7725 Storage Area 4B — Area bounded by column lines A9-A8 & Drawing X-7725-983-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
27.92	233.83	6528.53
27.92	66.65	1860.87

Additions - total usable floor space (sf) & additional volumes (cf)

Number	Width	Length	Area	Height
1.00	9.75	7.67	74.78	0.50
1.00	10.00	12.00	120.00	0.50

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	10.00	7.67	76.70	0.25
	2.00	12.00	10.00	240.00	0.25
c. Curb	1.00	17.67	6.25	110.44	0.50
Offsets:	1.00	12.67	10.00	126.70	0.50
	1.00	0.67	4.33	2.90	0.50
	1.00	5.83	31.44	183.30	0.50
	1.00	1.17	7.50	8.77	0.50
	1.00	3.42	20.17	68.98	0.50
	1.00	4.00	5.33	21.32	0.50
	1.00	1.00	17.00	17.00	0.50
	1.00	3.25	17.33	56.32	0.50
	1.00	3.50	8.67	30.35	0.50
	1.00	5.50	73.00	401.50	0.50
	1.00	4.00	31.67	126.68	0.50
	1.00	4.00	22.17	88.68	0.50
	1.00	0.67	4.33	2.90	0.50
d. Column Piers:	none			0.00	
e. Misc:	none			0.00	

3.	Net usable floor area (sf):	7021.65
4.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	263.48
5.	Poly-pallet volume displacement:	703.48 cubic feet
6.	Net containment volume with 6-inch curb:	3510.82 cubic feet
7.	Actual containment volume available:	2807.34 cubic feet
8.	Maximum stored volume = # pallets*3(stacking hgt)*4(drums per pallet) *55 gallons per drum =	173894.41 gallons 23247.92 cubic feet
9.	Containment volume required =	2324.79 cubic feet

ıble D-5 (continued)

X-7725 Storage Area 4C

Area bounded by column lines A8-A3 &
Drawing X-7725-984-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
98.17	72.17	7084.93

Additions - total usable floor space (sf) & additional volumes (cf)

Number	Width	Length	Area	Height
1.00	4.67	5.83	27.23	0.50

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	none			0.00	
c. Curb	1.00	3.67	3.33	12.22	0.50
Offsets:	1.00	40.00	42.50	1700.00	0.50
	1.00	4.00	11.00	44.00	0.50
	1.00	3.00	4.96	14.88	0.50
	1.00	4.83	3.58	17.29	0.50
d. Column	none			0.00	
e. Misc:	1.00	3.58	5.33	19.08	0.50

3.	Net usable floor area (sf):	5304.68
4.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	199.05
˜.	Poly-pallet volume displacement:	531.46 cubic feet
	Net containment volume with 6-inch curb:	2652.34 cubic feet
.	Actual containment volume available:	2120.88 cubic feet
8.	Maximum stored volume = # pallets*3(stacking hgt)*4(drums per pallet)	
	*55 gallons per drum =	131372.97 gallons
		17563.23 cubic feet
9.	Containment volume required =	1756.32 cubic feet

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Table D-5 (continued)

X-7725 Storage Area 4E

Area bounded by column lines A8-A3 &
Drawing X-7725-985-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
95.17	62.67	5964.30

Additions - total usable floor space (sf) & additional volumes (cf)

	Number	Width	Length	Area	Height
	1.00	10.67	3.33	35.53	0.50

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	none			0.00	
c. Curb	1.00	4.96	3.67	18.20	0.50
Offsets:	1.00	28.75	39.75	1142.81	0.50
	1.00	1.25	2.33	2.91	0.50
d. Misc:	2.00	3.33	4.42	29.44	0.50
e. Column Piers:	none			0.00	

3. Net usable floor area (sf): 4806.47
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 180.36
5. Poly-pallet volume displacement: 481.55 cubic feet
6. Net containment volume with 6-inch curb: 2403.24 cubic feet
7. Actual containment volume available: 1921.69 cubic feet
8. Maximum stored volume = # pallets*3(stacking hgt)*4(drums per pallet) *55 gallons per drum = 119034.52 gallons
   15913.71 cubic feet
9. Containment volume required = 1591.37 cubic feet

ıble D-5 (continued)

X-7725 Storage Area A

Area Bounded by Column Lines C8-C9 &
Drawing X-7725-976-S Revision 1
Drawing D-7725-977-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
289.67	191.00	55326.97

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	10.00	8.00	80.00	0.25
	4.00	10.00	10.00	400.00	0.25
	1.00	10.00	9.08	90.80	0.25
	1.00	10.00	8.67	86.70	0.25
c. Curb	1.00	4.58	55.29	253.23	0.50
Offsets:	1.00	8.58	4.96	42.56	0.50
	1.00	4.58	156.72	717.78	0.50
	1.00	1.25	20.25	25.31	0.50
	1.00	4.42	22.42	99.10	0.50
	1.00	10.00	25.25	252.50	0.50
	1.00	17.17	105.42	1810.06	0.50
	1.00	31.34	20.58	644.98	0.50
	1.00	0.08	6.00	0.48	0.50
	1.00	31.34	12.08	378.59	0.50
	1.00	41.34	10.67	441.10	0.50
	1.00	7.00	83.67	585.69	0.50
	1.00	1.92	37.54	72.08	0.50
	1.00	7.00	7.42	51.94	0.50
	1.00	1.92	24.21	46.48	0.50
	1.00	7.00	36.08	252.56	0.50
	1.00	8.92	13.33	118.90	0.50
	1.00	7.50	25.58	191.85	0.50
	1.00	1.25	8.67	10.84	0.50
	1.00	11.25	11.50	129.38	0.50
	1.00	13.17	28.25	372.05	0.50
	1.00	163.25	10.00	1632.50	0.50
d. Column	1.00	2.00	3.00	6.00	0.50
Piers:	2.00	3.00	3.00	18.00	0.50
	3.00	3.50	3.50	36.75	0.50
	1.00	3.50	1.75	6.13	0.50
e. Misc:	2.00	2.67	2.67	14.26	0.50
	1.00	7.83	9.17	71.80	0.50
	1.00	5.83	7.33	42.73	0.50
	1.00	4.83	4.00	19.32	0.50
	8.00	3.00	0.67	16.08	0.50
	1.00	6.33	6.67	42.22	0.50
	1.00	6.33	9.83	62.22	0.50
	1.00	6.83	6.67	45.56	0.50
	1.00	6.83	5.83	39.82	0.50
	1.00	6.33	5.00	31.65	0.50
	1.00	7.83	5.67	44.40	0.50
	1.00	4.33	4.33	18.75	0.50

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Table D-5 (continued)

3.	Net usable floor area (sf):	46023.84
4.	Total net containment volume with 6-inch curb (cubic feet):	23011.92
5.	4' X 4' x 6' box displacement	
	1600 boxes stacked 4 high = 400 boxes on floor	
	400 boxes x (5.05 cf displaced/box) =	2020 cubic feet
6.	Actual containment volume available:	20991.92 cubic feet
		157019.56 gallons
7.	Required containment volume for 1600 boxes:	
	total volume stored=	133920.00 cubic feet
	=	1001855.52 gallons
	1000 boxes x (83.7 cf/box) x 10% =	8370 Cubic feet
	567 boxes x (83.7 Cf/box) x 25% =	12555 Cubic feet
	total required volume =	20925 cubic feet
		156519 gallons

ıble D-5 (continued)

X-7725 Storage Area B

Area bounded by column lines A9-C8 &
Drawing X-7725-974-S Revision 0

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
82.67	328.67	27171.15

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	2.00	9.00	10.00	180.00	0.25
	1.00	8.17	10.00	81.70	0.25
c. Curb	1.00	1.67	69.25	115.65	0.50
Offsets:	1.00	4.00	80.67	322.68	0.50
	1.00	2.00	22.17	44.34	0.50
	1.00	5.67	5.67	32.15	0.50
	1.00	29.33	31.25	916.56	0.50
	1.00	15.58	22.58	351.80	0.50
	1.00	1.92	9.67	18.57	0.50
	1.00	5.25	10.00	52.50	0.50
d. Column	7.00	3.00	6.00	126.00	0.50
Piers:	1.00	3.00	5.33	15.99	0.50
	1.00	2.00	2.00	4.00	0.50
e. Misc:	2.00	4.67	6.00	56.04	0.50
	1.00	2.50	2.54	6.35	0.50
	3.00	1.67	4.00	20.04	0.50

3. Net usable floor area (sf): 24826.79
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 931.59
5. Poly-pallet volume displacement: 2487.34 cubic feet
6. Net containment volume with 6-inch curb: 12413.39 cubic feet
7. Actual containment volume available: 9926.05 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   614847.26 gallons
   82198.83 cubic feet
9. Containment volume required = 8219.88 cubic feet

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Table D-5 (continued)

X-7725 Storage Area C

Area bounded by column lines A3-A8 &
Drawing X-7725-9981-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
103.67	277.17	28734.21

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	1.00	0.67	79.33	53.15	0.50
b. Ramps:	1.00	10.00	16.67	166.70	0.25
	1.00	10.00	14.00	140.00	0.25
c. Curb	1.00	4.42	20.17	89.15	0.50
Offsets:	1.00	1.67	18.00	30.06	0.50
	1.00	7.75	69.00	534.75	0.50
	1.00	1.48	14.00	20.72	0.50
	1.00	7.75	46.33	359.06	0.50
	1.00	9.67	21.92	211.97	0.50
	1.00	5.33	4.96	26.44	0.50
	1.00	9.67	24.25	234.50	0.50
	1.00	11.42	11.00	125.62	0.50
	1.00	4.17	31.33	130.65	0.50
	1.00	4.17	32.00	133.44	0.50
	1.00	5.33	6.75	35.98	0.50
	1.00	3.33	42.42	141.26	0.50
	1.00	6.33	16.83	106.53	0.50
	1.00	3.33	23.50	78.25	0.50
	1.00	2.17	21.33	46.29	0.50
	1.00	4.83	21.33	103.02	0.50
	1.00	6.33	5.33	33.74	0.50
	1.00	4.75	26.08	123.88	0.50
d. Column	3.00	3.00	3.00	27.00	0.50
Piers:	4.00	2.00	2.00	16.00	0.50
	1.00	2.17	2.00	4.34	0.50
	7.00	3.00	6.00	126.00	0.50
	1.00	4.00	2.00	8.00	0.50
	1.00	3.00	9.00	27.00	0.50
	1.00	3.58	9.67	34.62	0.50
	2.00	3.08	2.08	12.81	0.50
	1.00	2.00	3.33	6.66	0.50
	1.00	3.33	2.33	7.76	0.50
	1.00	5.33	3.58	19.08	0.50
e. Misc:	1.00	4.67	5.33	24.89	0.50
	5.00	2.83	2.83	40.04	0.50
	1.00	4.33	5.67	24.55	0.50
	1.00	3.33	0.67	2.23	0.50
	1.00	2.67	6.00	16.02	0.50

ble D-5 (continued)

3.	Net usable floor area (sf):	25412.05
4.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	953.55
5.	Poly-pallet volume displacement:	2545.97 cubic feet
6.	Net containment volume with 6-inch curb:	12706.025 cubic feet
7.	Actual containment volume available:	10160.05 cubic feet
8.	Maximum stored volume: Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =	629341.67 gallons 84136.59 cubic feet
9.	Containment volume required =	8413.66 cubic feet

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Table D-5 (continued)

X-7725 Storage Area D

Area bounded by column lines B6-C1 &
Drawing X-7725-986-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
48.83	86.25	4211.59

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	2.00	8.00	10.00	160.00	0.25
c. Curb	1.00	8.67	15.75	136.55	0.50
Offsets:	1.00	6.92	9.33	64.56	0.50
	1.00	10.00	14.33	143.30	0.50
	1.00	5.67	13.67	77.51	0.50
d. Column	1.00	3.00	3.00	9.00	0.50
Piers:	1.00	2.00	2.00	4.00	0.50
	2.00	2.00	2.17	8.68	0.50
e. Misc:	none			0.00	

3. Net usable floor area (sf): 3607.98
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 135.38
5. Poly-pallet volume displacement: 361.48 cubic feet
6. Net containment volume with 6-inch curb: 1803.99 cubic feet
7. Actual containment volume available: 1442.51 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   89353.41 gallons
   11945.64 cubic feet
9. Containment volume required = 1194.56 cubic feet

ble D-5 (continued)

X-7725 Storage Area E & F

Area bounded by column lines B5-C8.6 &
Drawing X-7725-987-S Revision 1
Drawing X-7725-988-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
131.67	238.50	31403.30

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	13.33	10.00	133.30	0.25
	1.00	6.67	10.00	66.70	0.25
	3.00	8.00	10.00	240.00	0.25
c. Curb	1.00	6.33	16.33	103.37	0.50
Offsets:	1.00	13.33	42.83	570.92	0.50
	1.00	39.17	12.67	496.28	0.50
	1.00	0.33	55.83	18.42	0.50
	1.00	0.33	17.00	5.61	0.50
	1.00	4.00	15.00	60.00	0.50
	1.00	0.33	17.92	5.91	0.50
	1.00	3.50	5.00	17.50	0.50
	1.00	0.33	39.00	12.87	0.50
	1.00	5.67	9.25	52.45	0.50
	1.00	5.67	17.75	100.64	0.50
	1.00	3.00	8.33	24.99	0.50
	1.00	19.33	8.00	154.64	0.50
	1.00	9.33	8.00	74.64	0.50
	1.00	9.33	80.67	752.65	0.50
	1.00	3.42	2.67	9.13	0.50
	1.00	7.00	16.25	113.75	0.50
	1.00	10.67	14.75	157.38	0.50
	1.00	29.00	38.17	1106.93	0.50
	1.00	28.25	2.33	65.82	0.50
d. Column	2.00	2.33	3.00	13.98	0.50
Piers:	1.00	2.33	9.00	20.97	0.50
	5.00	3.00	9.00	135.00	0.50
	6.00	3.00	6.00	108.00	0.50
	10.00	2.00	2.00	40.00	0.50
	2.00	3.00	3.00	18.00	0.50
	1.00	2.00	1.75	3.50	0.50
e. Misc:	1.00	2.83	9.00	25.47	0.50
	1.00	4.83	4.17	20.14	0.50
	1.00	4.67	9.00	42.03	0.50
	2.00	3.83	3.33	25.51	0.50
	1.00	12.50	10.33	129.13	0.50
	1.00	3.67	9.00	33.03	0.50
	1.00	2.00	3.67	7.34	0.50
	1.00	3.00	3.67	11.01	0.50

SUBMISSION DATE: February 21, 2000

Table D-5 (continued)

3.	Net usable floor area (sf):	26426.27
4.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	991.60
5.	Poly-pallet volume displacement:	2647.58 cubic feet
6.	Net containment volume with 6-inch curb:	13213.135 cubic feet
7.	Actual containment volume available:	10565.55 cubic feet
8.	Maximum stored volume:	
	Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =	
		654459.20 gallons
		87494.55 cubic feet
9.	Containment volume required =	8749.45 cubic feet

ble D-5 (continued)

X-7725 Storage Area G

Area Bounded by Column Lines A9-B8 &
Drawing X-7725-975-S Revision 0

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
122.67	158.00	19381.86

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	10.00	10.00	100.00	0.25
	1.00	8.67	10.00	86.70	0.25
c. Curb	1.00	27.33	19.33	528.29	0.50
Offsets:	1.00	7.33	5.50	40.31	0.50
	1.00	5.83	6.33	36.90	0.50
	1.00	16.33	1.33	21.72	0.50
	1.00	4.83	0.33	1.59	0.50
	1.00	6.58	6.67	43.89	0.50
	1.00	1.33	3.00	3.99	0.50
	1.00	0.33	6.87	2.27	0.50
	1.00	5.33	3.00	15.99	0.50
	1.00	6.42	5.42	34.80	0.50
	1.00	11.08	11.33	125.54	0.50
	1.00	42.17	6.83	288.02	0.50
	1.00	3.33	2.50	8.33	0.50
	1.00	2.50	2.00	5.00	0.50
d. Column	4.00	2.00	2.00	16.00	0.50
Piers:	3.00	2.33	2.33	16.29	0.50
	2.00	9.00	3.00	54.00	0.50
	1.00	5.33	3.00	15.99	0.50
	1.00	5.42	3.00	16.26	0.50
	1.00	9.00	2.33	20.97	0.50
	1.00	3.50	3.50	12.25	0.50
	1.00	4.50	3.00	13.50	0.50
	3.00	1.33	2.00	7.98	0.50
e. Misc:	1.00	6.00	6.00	36.00	0.50
	1.00	6.33	4.00	25.32	0.50
	1.00	0.42	0.83	0.35	0.50

3. Net usable floor area (sf): 17815.15
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 668.49
5. Poly-pallet volume displacement: 1784.86 cubic feet
6. Net containment volume with 6-inch curb: 8907.57 cubic feet
7. Actual containment volume available: 7122.71 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   441200.73 gallons
   58984.05 cubic feet
9. Containment volume required = 5898.41 cubic feet

SUBMISSION DATE: February 21, 2000

Table D-5 (continued)

X-7725 Storage Area H

Area Bounded by Column Lines C1-C5 & 44-48
Drawing X-7725-960-S Revision 0

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
80.46	74.42	5987.83

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	8.67	10.00	86.70	0.25
	1.00	14.25	10.00	142.50	0.25
c. Curb	1.00	1.63	3.33	5.43	0.50
Offsets:	1.00	3.67	13.00	47.71	0.50
	1.00	12.96	14.92	193.36	0.50
	1.00	1.63	46.08	75.11	0.50
	1.00	4.63	9.12	42.23	0.50
	1.00	1.63	7.21	11.75	0.50
d. Misc:	1.00	1.25	1.25	1.56	0.50
e. Column Piers:	2.00	2.00	2.00	8.00	0.50

3. Net usable floor area (sf): 5373.48
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 201.63
5. Poly-pallet volume displacement: 538.36 cubic feet
6. Net containment volume with 6-inch curb: 2686.74 cubic feet
7. Actual containment volume available: 2148.38 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   133076.84 gallons
   17791.02 cubic feet
9. Containment volume required = 1779.10 cubic feet

ble D-5 (continued)

X-7725 Storage Area J

Area Bounded by Column Lines B6-C1 &
Drawing X-7725-989-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
77.92	57.58	4486.63

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	14.00	10.00	140.00	0.25
	1.00	6.42	2.33	14.96	0.50
	1.00	6.42	10.00	64.20	0.25
	1.00	12.67	10.00	126.70	0.25
c. Curb	1.00	5.50	18.58	102.19	0.50
Offsets:	1.00	3.17	3.17	10.05	0.50
	1.00	1.83	22.00	40.26	0.50
	1.00	4.67	20.17	94.19	0.50
	1.00	0.33	33.46	11.04	0.50
	1.00	4.00	7.29	29.16	0.50
d. Column Piers:	2.00	2.00	1.50	6.00	0.50

3. Net usable floor area (sf): 3847.88
'. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 144.39
Poly-pallet volume displacement: 385.51 cubic feet
. Net containment volume with 6-inch curb: 1923.94 cubic feet
7. Actual containment volume available: 1538.43 cubic feet
8. Maximum stored volume:
Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
95294.60 gallons
12739.92 cubic feet
9. Containment volume required = 1273.99 cubic feet

SUBMISSION DATE: February 21, 2000

Table D-5 (continued)

X-7725 Storage Area K

Area Bounded by Column Lines B8-C2 &
Drawing X-7725-990-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
124.33	57.75	7180.06

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	10.00	13.33	133.30	0.25
	1.00	10.00	12.67	126.70	0.25
c. Curb	1.00	11.00	14.00	154.00	0.50
Offsets:	2.00	2.25	3.33	14.99	0.50
	1.00	5.33	30.58	162.99	0.50
	1.00	17.00	37.83	643.11	0.50
	1.00	4.67	43.25	201.98	0.50
	1.00	0.67	1.67	1.12	0.50
	1.00	1.17	1.67	1.95	0.50
	1.00	1.67	10.92	18.24	0.50
	1.00	19.92	72.08	1435.83	0.50
	1.00	1.75	4.67	8.17	0.50
	1.00	6.33	13.92	88.11	0.50
d. Column Piers:	1.00	2.00	2.00	4.00	0.50
e. Misc:	1.00	5.00	6.17	30.85	0.50
	1.00	4.00	7.67	30.68	0.50

3. Net usable floor area (sf): 4124.03
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 154.75
5. Poly-pallet volume displacement: 413.18 cubic feet
6. Net containment volume with 6-inch curb: 2062.01 cubic feet
7. Actual containment volume available: 1648.83 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   102133.69 gallons
   13654.24 cubic feet
9. Containment volume required = 1365.42 cubic feet

ble D-5 (continued)

X-7725 Storage Area L

Area Bounded by Column Lines C2-C5 &
Drawing X-7725-991-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
54.58	103.33	5639.75

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	10.00	10.00	100.00	0.25
	1.00	8.00	10.00	80.00	0.25
c. Curb	1.00	4.66	11.00	51.26	0.50
Offsets:	1.00	3.33	12.67	42.19	0.50
	1.00	5.00	10.83	54.15	0.50
	1.00	4.00	5.00	20.00	0.50
	1.00	4.00	5.83	23.32	0.50
	1.00	6.00	31.16	186.96	0.50
	1.00	6.00	19.67	118.02	0.50
d. Column	1.00	2.00	2.00	4.00	0.50
Piers:	1.00	3.08	6.00	18.48	0.50
	1.00	1.33	2.00	2.66	0.50
e. Misc:	1.00	6.33	12.33	78.05	0.50
	1.00	9.00	10.00	90.00	0.50

	Net usable floor area (sf):	4770.66
.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	179.01
5.	Poly-pallet volume displacement:	477.96 cubic feet
6.	Net containment volume with 6-inch curb:	2385.33 cubic feet
7.	Actual containment volume available:	1907.37 cubic feet
8.	Maximum stored volume: Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =	118147.71 gallons
		15795.15 cubic feet
9.	Containment volume required =	1579.51 cubic feet

SUBMISSION DATE: February 21, 2000

Table D-5 (continued)

X-7725 Storage Area M1

Area Bounded by Column Lines D9-E4 &
Drawing X-7725-993-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
31.50	76.75	2417.63

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	8.00	10.00	80.00	0.25
c. Curb	1.00	4.33	8.58	37.15	0.50
Offsets:	1.00	0.33	17.17	5.67	0.50
	1.00	8.00	11.00	88.00	0.50
	1.00	8.67	15.42	133.69	0.50
	3.00	2.67	5.33	42.69	0.50
d. Column Piers:	none			0.00	
e. Misc:	none			0.00	

3. Net usable floor area (sf): 2030.42
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 76.19
5. Poly-pallet volume displacement: 203.42 cubic feet
6. Net containment volume with 6-inch curb: 1015.21 cubic feet
7. Actual containment volume available: 811.79 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   50284.39 gallons
   6722.51 cubic feet
9. Containment volume required = 672.25 cubic feet

ble D-5 (continued)

X-7725 Storage Area M

Area Bounded by Column Lines D9-E4 & 36-38
Drawing X-7725-961-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
35.42	79.92	2830.77

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	8.67	13.33	115.57	0.33
c. Stepovers:	1.00	6.25	4.29	26.81	0.67
	2.00	3.63	0.92	6.68	0.33
	1.00	3.63	2.33	8.46	0.67
d. Curb	1.00	17.75	3.50	62.13	0.67
Offsets:	1.00	3.83	5.50	21.06	0.67
	1.00	2.33	3.83	8.92	0.67
	2.00	2.33	4.00	18.64	0.67
	1.00	2.17	2.00	4.34	0.67
	1.00	13.67	8.00	109.36	0.67
	1.00	13.08	1.67	21.84	0.67
	2.00	2.33	3.33	15.52	0.67
	1.00	2.33	16.17	37.68	0.67
e. Misc:	1.00	1.25	1.25	1.56	0.67

	Net usable floor area (sf):	2372.19
.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	89.01
5.	Poly-pallet volume displacement:	316.89 cubic feet
6.	Net containment volume with 6-inch curb:	1581.46 cubic feet
7.	Actual containment volume available:	1264.57 cubic feet
8.	Maximum stored volume: Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =	58748.46 gallons
		7854.07 cubic feet
9.	Containment volume required =	785.41 cubic feet

SUBMISSION DATE: February 21, 2000

Table D-5 (continued)

X-7725 Storage Area N1

Area Bounded by Column Lines A8-A9 &
Drawing X-7725-997-S Revision 2

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
30.75	379.83	11679.77

Additions - total usable floor space area (sf) & additional volumes (cf)

Number	Width	Length	Area	Height
1.00	11.42	11.17	127.56	0.50
1.00	6.33	6.67	42.22	0.50

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramps:	1.00	11.42	10.00	114.20	0.25
	1.00	8.67	10.00	86.70	0.25
	1.00	6.67	10.00	66.70	0.25
	1.00	14.00	10.00	140.00	0.25
	1.00	8.00	10.00	80.00	0.25
	1.00	12.67	16.67	211.21	0.25
	1.00	17.75	10.00	177.50	0.25
c. Curb	1.00	5.67	34.75	197.03	0.50
Offsets:	1.00	2.92	63.25	184.69	0.50
	1.00	0.67	4.75	3.18	0.50
	1.00	0.67	10.67	7.15	0.50
	1.00	4.75	4.96	23.56	0.50
	1.00	3.00	7.17	21.51	0.50
	1.00	2.83	9.50	26.88	0.50
	1.00	4.00	11.42	45.68	0.50
	1.00	2.50	13.67	34.18	0.50
	1.00	2.50	3.33	8.33	0.50
	1.00	2.25	2.00	4.50	0.50
	1.00	10.17	12.21	124.18	0.50
	1.00	5.92	4.96	29.36	0.50
	1.00	6.08	8.17	49.67	0.50
	1.00	4.92	10.75	52.89	0.50
	1.00	6.25	7.50	46.88	0.50
	1.00	5.92	22.67	134.21	0.50
	1.00	6.92	4.96	34.32	0.50
d. Column Piers:	1.00	2.25	6.00	13.50	0.50
e. Misc:	1.00	2.92	41.88	122.29	0.50
	1.00	2.92	15.17	44.30	0.50
	1.00	1.25	4.67	5.84	0.50
	1.00	2.92	47.58	138.93	0.50
	1.00	3.25	51.42	167.12	0.50
	1.00	2.92	20.83	60.82	0.50
	1.00	2.25	10.17	22.88	0.50
	1.00	2.25	39.33	88.49	0.50
	1.00	1.58	12.67	20.02	0.50
	1.00	1.25	8.00	10.00	0.50

ıble D-5 (continued)

3.	Net usable floor area (sf):	9250.86
4.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	347.12
5.	Poly-pallet volume displacement:	926.82 cubic feet
6.	Net containment volume with 6-inch curb:	4625.43 cubic feet
7.	Actual containment volume available:	3698.61 cubic feet
8.	Maximum stored volume:	
	Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =	
		229101.99 gallons
		30628.61 cubic feet
9.	Containment volume required =	3062.86 cubic feet

SUBMISSION DATE: February 21, 2000

Table D-5 (continued)

X-7725 Storage Area N

Area Bounded by Column Lines A8-B5 &
Drawing X-7725-996-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
102.00	172.00	17544.00

Additions - total usable floor space area (sf) & additional volumes (cf)

Number	Width	Length	Area	Height
1.00	1.67	2.50	4.17	0.50
1.00	3.00	28.58	85.74	0.50
1.00	6.67	27.75	185.09	0.50
1.00	15.33	12.33	189.02	0.50

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramp:	1.00	9.00	10.00	90.00	0.25
	1.00	6.67	10.00	66.70	0.25
	1.00	8.00	10.00	80.00	0.25
	1.00	10.00	10.00	100.00	0.25
	1.00	18.00	10.00	180.00	0.25
	1.00	15.58	10.00	155.80	0.25
c. Curb	1.00	13.25	11.25	149.06	0.50
Offsets:	1.00	6.50	7.75	50.38	0.50
	1.00	4.67	2.42	11.30	0.50
	1.00	4.33	7.00	30.31	0.50
	1.00	9.92	20.92	207.53	0.50
	1.00	6.42	41.25	264.83	0.50
	1.00	4.17	4.83	20.14	0.50
	1.00	0.67	10.17	6.81	0.50
d. Column	2.00	2.00	2.00	8.00	0.50
Piers:	6.00	2.83	2.83	48.05	0.50
	2.00	3.00	3.00	18.00	0.50
	1.00	3.00	9.50	28.50	0.50
	1.00	3.00	6.00	18.00	0.50
e. Misc:	1.00	1.33	15.58	20.72	0.50
	1.00	2.33	2.92	6.80	0.50

3. Net usable floor area (sf): 16447.09
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 617.15
5. Poly-pallet volume displacement: 1647.80 cubic feet
6. Net containment volume with 6-inch curb: 8223.54 cubic feet
7. Actual containment volume available: 6575.74 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   407320.12 gallons
   54454.56 cubic feet
9. Containment volume required = 5445.46 cubic feet

ıble D-5 (continued)

X-7725 Storage Area P1

Area Bounded by Column Lines A3-A8 &
Drawing X-7725-980-S Revision 0

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
102.25	58.50	5981.63

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:					
	none			0.00	
b. Ramp:	1.00	12.67	10.00	126.70	0.25
	1.00	13.67	10.00	136.70	0.25
c. Curb	1.00	21.08	5.33	112.36	0.50
Offsets:	1.00	20.67	19.25	397.90	0.50
	1.00	24.50	3.83	93.84	0.50
	1.00	4.50	6.33	28.49	0.50
	1.00	5.00	9.08	45.40	0.50
	1.00	5.00	26.50	132.50	0.50
	1.00	5.33	8.67	46.21	0.50
	1.00	13.67	0.58	7.93	0.50
	1.00	47.50	0.33	15.68	0.50
d. Column Piers:	1.00	3.00	6.00	18.00	0.50
e. Misc:	1.00	0.92	3.63	3.34	0.50
	2.00	4.33	7.33	63.48	0.50
	1.00	5.42	10.58	57.34	0.50

3. Net usable floor area (sf): 4695.78
4. Maximum no. of pallets (net usable floor area/26.65 sf/polypallets) 176.20
5. Poly-pallet volume displacement: 470.46 cubic feet
6. Net containment volume with 6-inch curb: 2347.89 cubic feet
7. Actual containment volume available: 1877.43 cubic feet
8. Maximum stored volume:
   Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =
   116293.12 gallons
   15547.21 cubic feet
9. Containment volume required = 1554.72 cubic feet

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Table D-5 (continued)

X-7725 Storage Area P3

Area Bounded by Column Lines A4-A8 &
Drawing X-7725-995-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
31.33	78.00	2443.74

Additions - total usable floor space area (sf) & additional volumes (cf)

Number	Width	Length	Area	Height
1.00	0.83	26.33	21.85	0.50

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramp:	none			0.00	
c. Curb	1.00	2.08	8.33	17.33	0.50
Offsets:					
d. Column	none			0.00	
Piers:					
e. Misc:	none			0.00	

3.	Net usable floor area (sf):	2448.27
4.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	91.87
5.	Poly-pallet volume displacement:	245.29 cubic feet
6.	Net containment volume with 6-inch curb:	1224.13 cubic feet
7.	Actual containment volume available:	978.85 cubic feet
8.	Maximum stored volume:	
	Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =	
		60632.52 gallons
		8105.95 cubic feet
9.	Containment volume required =	810.60 cubic feet

ble D-5 (continued)

X-7725 Storage Area P

Area Bounded by Column Lines A3-A8 & 42-45
Drawing X-7725-964-S Revision 2

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
54.00	97.54	5267.16

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramp:	1.00	8.00	3.33	26.64	0.02
c. Curb	1.00	16.83	5.05	84.99	0.03
Offsets:	1.00	9.50	1.38	13.11	0.03
	1.00	6.67	6.21	41.42	0.03
	1.00	12.42	1.38	17.14	0.03
	1.00	2.88	4.67	13.45	0.03
	1.00	16.83	8.33	140.19	0.03
d. Column Piers:	2.00	3.00	3.00	18.00	0.03
e. Misc:	1.00	1.25	1.25	1.56	0.03

3.	Net usable floor area (sf):	4910.65
4.	Pallet area required =	54.48 sf
5.	Curb height = 1 inch =	0.083 feet
^.	Maximum number of pallets =	49.00
	Maximum volume stored =	10780.00 gallons
		1441.18 Cubic feet
8.	Net containment volume:	407.58 cubic feet
		3048.72 gallons
9.	Total pallet displacement volume =	11.45 gallons
		1.53 cubic feet
10.	Actual containment volume:	406.05 cubic feet
11.	Containment volume required =	1078.00 gallons
		144.12 cubic feet

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Table D-5 (continued)

X-7725 Storage Area Q

Area Bounded by Column Lines A8-B7 &
Drawing X-7725-992-S Revision 1

1. Gross building dimension (ft) within curb - gross floor area

Width	Length	Area
58.83	118.00	6941.94

2. Deductions - total unusable floor space area (sf) & displacement volume

	Number	Width	Length	Area	Height
a. Walls:	none			0.00	
b. Ramp:	1.00	6.42	10.00	64.20	0.25
	1.00	6.67	10.00	66.70	0.25
c. Curb	1.00	2.33	6.42	14.93	0.50
Offsets:	1.00	5.17	63.50	328.30	0.50
	1.00	4.67	4.67	21.81	0.50
	1.00	5.00	8.00	40.00	0.50
	1.00	0.33	29.04	9.58	0.50
	1.00	4.00	4.96	19.84	0.50
d. Column	2.00	1.50	2.00	6.00	0.50
Piers:	1.00	2.00	3.25	6.50	0.50
e. Misc:	2.00	2.83	3.33	18.85	0.50

3.	Net usable floor area (sf):	6345.21
4.	Maximum no. of pallets (net usable floor area/26.65 sf/polypallets)	238.09
5.	Poly-pallet volume displacement:	635.71 cubic feet
6.	Net containment volume with 6-inch curb:	3172.60 cubic feet
7.	Actual containment volume available:	2536.89 cubic feet
8.	Maximum stored volume: Number pallets x 4 drums/pallet x 55 gallons/drum x 3 stacking height =	157142.07 gallons 21008.30 cubic feet
9.	Containment volume required =	2100.83 cubic feet

Table D-6
Summary of Containment Area Information For X-7725

AREA	MAXIMUM STORED	REQUIRED CONTAINMENT	ACTUAL CONTAINMENT	% CONTAINMENT PROVIDED
A	133920.00	20510.69	20991.92	15.6749
B	82198.83	8219.88	9926.05	12.0756
C	84136.59	8413.66	10160.05	12.0756
D	11945.64	1194.56	1442.51	12.0756
EF	87494.55	8749.45	10565.55	12.0756
G	58984.05	5898.41	7122.71	12.0756
H	17791.02	1779.10	2148.38	12.0756
J	12739.92	1273.99	1538.43	12.0756
K	13654.24	1365.42	1648.83	12.0756
L	15795.15	1579.51	1907.37	12.0756
M	7854.07	785.41	1264.57	16.1008
M1	6722.51	672.25	811.79	12.0756
N	54454.56	5445.46	6575.74	12.0756
N1	30628.61	3062.86	3698.61	12.0756
P	1441.18	144.12	406.05	28.1748
P1	15547.21	1554.72	1877.43	12.0756
P3	8105.95	810.60	978.85	12.0757
Q	21008.30	2100.83	2536.89	12.0756
4A	8234.73	823.47	824.50	10.01
4B	23247.92	2324.79	2807.34	12.0756
4C	17563.23	1756.32	2120.88	12.0757
4E	15913.71	1591.37	1921.69	12.0757

MAXIMUM VOLUME STORED = 729381.97 CUBIC FEET
= 5456141.80 GALLONS

Table D-7
X-326 Containment Capacity Calculations

AREA DESIGNATION	1	2	3	4	5	WEST L	EAST L
TOTAL SQUARE FEET	968	3082	1400	3082	2552	11876	8928
AREA DEDUCTIONS	18	24	12	24	24	64	284
AVAILABLE SQUARE FEET	950	3058	1388	3058	2528	11812	8644
PALLET AREA REQUIRED	51.48	51.48	51.48	51.48	51.48	51.48	51.48
MAXIMUM NUMBER PALLETS	18	59	26	59	49	229	167
MAXIMUM GALLONS STORED	3960	12980	5720	12980	10780	50380	36740
CONTAINMENT GALLONS REQUIRED	396	1298	572	1298	1078	5038	3674
GROSS VOLUME IN GALLONS	589	1895.96	860.56	1895.96	1567.36	7323.44	5359.28
GALLON REDUCTION FOR PALLETS	179.10	587.05	258.7	587.05	487.55	2278.55	1661.65
AVAILABLE CONTAINMENT GALLONS	409.9	1308.91	601.86	1308.9	1079.81	5044.89	3697.63
CONTAINMENT CAPACITY PERCENT OF MAXIMUM VOLUME STORED	10.4 %	10.0 %	10.5 %	10.0 %	10.0 %	10.0 %	10.0 %

THEREFORE, THE CONTAINMENT CAPACITY MEETS THE REQUIREMENTS OF 40 CFR 270.15(a)(3).

MAXIMUM VOLUME STORED - 17853 CUBIC FEET
- 33540 GALLONS

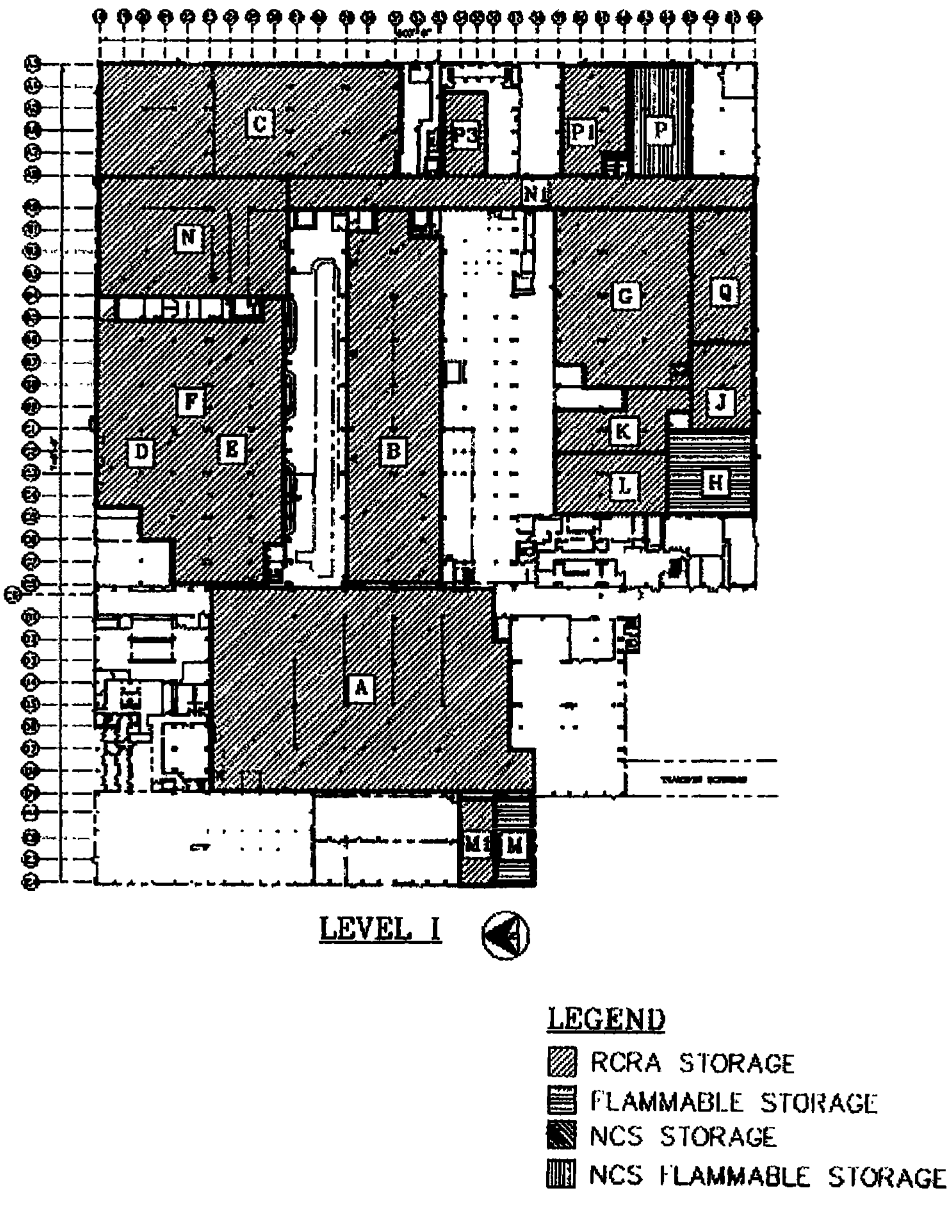

Figure D-1. X-7725 Building Layout - Level I

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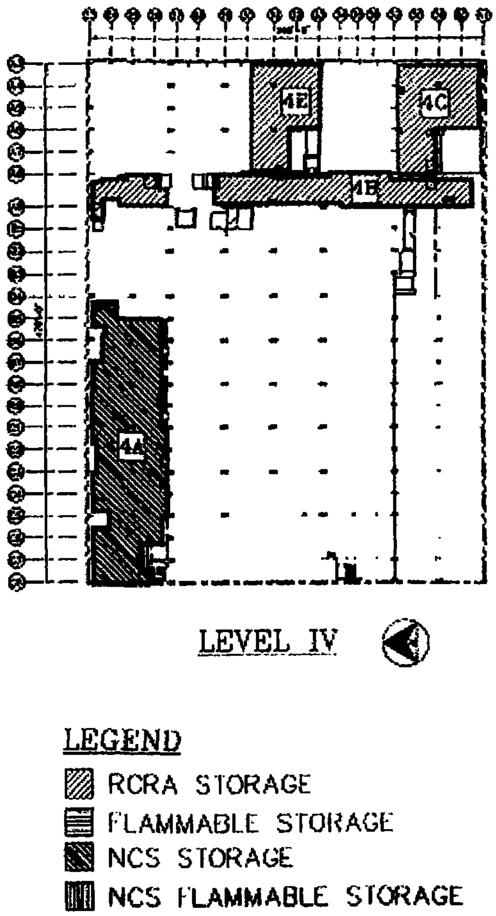

Figure D-2. X-7725 Building Layout - Level IV

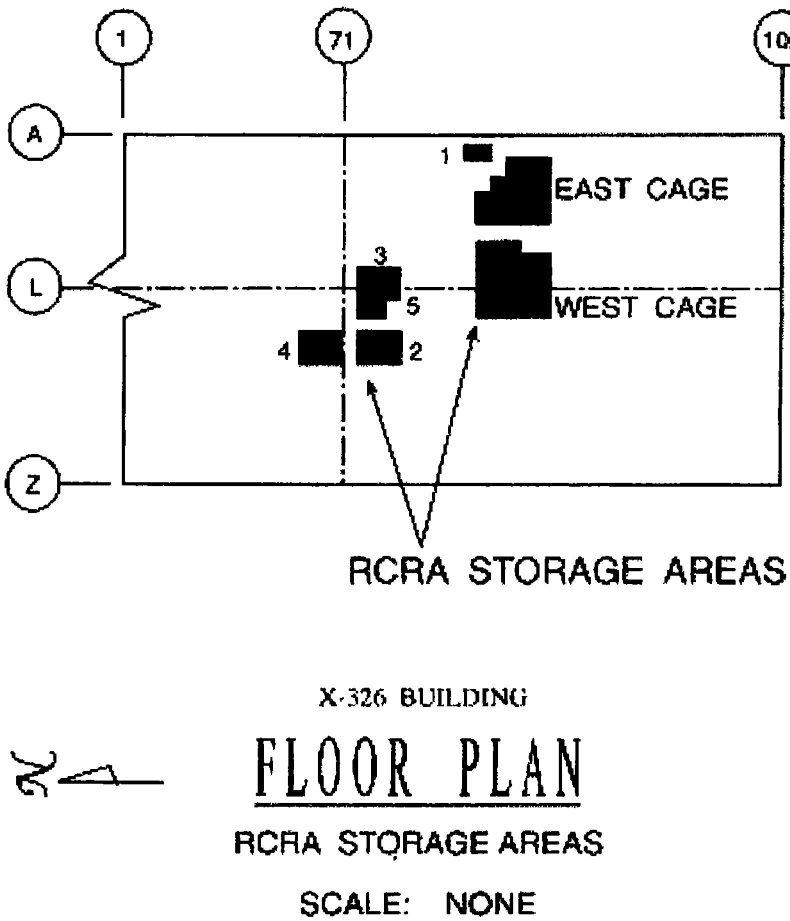

Figure D-3. X-326 Building Floor Plan

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

GENERATOR INFORMATION:

NAME______________________________

ADDRESS____________________ PHONE____________

CITY____________________ STATE_____ ZIP__________

EPA ID NO. / MANIFEST DOCUMENT NO. ________________ / ____________

ACCUMULATION START DATE ________________ EPA WASTE NO.____________

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

HANDLE WITH CARE!

STYLE CFWM6

Printed by Labelmaster, An American Labelmark Co., Chicago, IL 60646 (800)621-5808

Figure D-4. Hazardous Waste Label

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WASTE INFORMATION LABEL

-- USE BLACK INK ONLY --

GENERATOR: ______________________________

CONTENTS: ______________________________

____

RFD #: ______________________________

PCB START DATE: ____ / ____ / ____

PCB STORAGE DATE: ____ / ____ / ____

WEIGHT: ______________________________

Figure D-5. Waste Information Label

DATE: mm/dd/yyyy hh:mm:ss
yyyy-T-xxx
RFD Number xxxxx

REQUEST FOR DISPOSAL

GENERATOR SECTION: ONLY ONE CONTAINER TYPE & WASTE TYPE PER RFD.

1. Waste Location:	2. Number of Containers:
3. Waste Origin (bldg/facility):	4. Owner: [ ] USEC [ ] DOE USEC Number:
5. Activity Generating Waste:	
6. Container Size (e.g. 55-gallon, 10L polybottle):	7. Container Material (e.g. steel, plastic):
8. Physical State of Waste: [ ] Solid [ ] Liquid [ ] Gas	
9. Waste Description - fully describe waste, include all known chemicals/constituents present in waste	
Accountable Container Numbers (e.g. Polybottles, F-Cans):	
	Material Code (if applicable):
10. Is this Waste Radioactively Contaminated? [ ] Yes [ ] No	
Attach supporting documentation. Check one: [ ] HP Survey [ ] Analytical [ ] Process Knowledge	
If radioactive, indicate U-235 mass and concentration per container: Mass: Conc.:	
11. Accumulation Start Date for RCRA Waste:	
12. Date Container First Placed into Use for PCB Waste >= 50 or from a source >= 50 ppm:	
13. Date Removed from Service for PCB Equipment:	
14. PCB Concentration:	
Generator Comments: Name:	Date:

Name: Cost Center:	Badge Number: Mail Stop:	Date: Phone:

WASTE MANAGEMENT SECTION:

15. Field Services Approval:	16. Date RFD Form Received:	
17. Container Labels: [ ] USEC [ ] DOE [ ] Hazardous [ ] PCB Ml [ ] PCB<50 [ ] Radioactive [ ] Fissile		
[ ] Used Oil [ ] Asbestos [ ] Non-Regulated [ ] Other (Specify):		
18. Waste Category:	19. Waste Stream ID Number:	20. Waste Type:
21. EPA Waste Number(s):	22. Sampling Requested: [ ] Yes [ ] No	
23. Unrestricted Release: [ ] Yes [ ] No	24. Criteria Used: [ ] Survey [ ] Area of Generation	
25. If RFD is Voided, State Reason:	HANDLING CODE FOR STORAGE	
26. Special Instructions: Name:	S01 Date:	
27. Deliver to: [ ] X-7725 [ ] X-326L [ ] X-7745RN [ ] X-7745RS [ ] XT-847 [ ] X-705 [ ] Other:		
DOE Facility Approval:	Location:	Date:

WASTE TRANSPORTER/WASTE MANAGEMENT SECTION:

28. A. Facility Delivered To:	Container Number	Gross Wt.
Transporter's Initials/Date:		
B. Facility Delivered To:		
Transporter's Initials/Date:		
29. Storage Location:		
Operator's Name/Date:		

Figure D-6. Example Request for Disposal Form

Section E

Groundwater Monitoring

This section is not applicable because groundwater monitoring is not required for the permitted container storage units at PORTS.

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Section F

Procedures to Prevent Hazards

F-1 Security [3745-54-14, 3745-50-44]

F-1A Security Procedures and Equipment [3745-54-14, 3745-50-44]

Security procedures and equipment at PORTS that prevent the unknowing entry and minimize the possibility for unauthorized entry of persons or livestock onto the active portion of the facility are discussed below.

F-1A(1) 24-Hour Surveillance System [3745-54-14]

Security at PORTS is maintained by a staff of trained security guards. Routine patrols of the main complex provide continuous surveillance of the entire facility, including the container storage units. All security guards are equipped with two-way radios and have direct communications with other PORTS plant protection personnel (i.e., fire department, plant shift superintendents, and the plant communications center).

F-1A(2) Barrier and Means to Control Entry [3745-54-14]

PORTS is a controlled access facility surrounded by a seven foot high chain-link fence, complete with three strand barbed wire and angled top stanchions, gates, and numerous other features that contribute to the safety and security of the facility.

The two container storage units for the PORTS site are located in the X-326 Building and the X-7725 Building. The X-326 Building is in the west central portion of the site and the X-7725 Building is located in the southwestern portion of the site. Both container storage units are located within the plant security fence.

Employees are required to show identification badges to security guards when entering all gates. Visitors and contractors entering the plant must sign a log sheet and/or obtain proper passes.

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F-1A(3) Warning Signs [3745-54-14]

Signs bearing the legend "Danger-Unauthorized Personnel Keep Out" are posted at each entrance to the hazardous waste storage units and are visible from all angles of approach. The signs are written in English and are legible from a distance of twenty-five feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter and that entry into the active portion can be dangerous.

F-2 Inspection Schedule [3745-50-44, 3745-54-15]

F-2A General Inspection Requirements [3745-50-44, 3745-54-15, 3745-54-73]

The X-7725 and X-326 Storage Units are inspected to detect conditions that may be causing or may lead to the release of hazardous waste constituents to the environment or a threat to human health. Inspection frequencies, items inspected, and types of potential problems that are to be reviewed during inspections are listed in Table F-1. Problems identified during the inspections are documented and corrected on a schedule that ensures the problem does not lead to an environmental or human health hazard. The inspection record will include, at a minimum, the date and time of the inspection, name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. Completed inspection checklists, or inspection summaries, are filed in the operating record in accordance with Section J of the permit application. The inspection records are retained a minimum of 3 years from the date of the inspection.

F-2A(1) Types of Problems [3745-54-15]

Equipment items inspected, types of potential problems checked, and inspection frequencies are tabulated in Table F-1, Inspection Schedule.

F-2A(2) Frequency of Inspections [3745-54-15]

The X-7725 and X-326 Storage Units, which contain multiple areas, are inspected by designated facility personnel on a weekly basis (within 7 days of the previous inspection). See Table F-1. Loading/unloading areas are inspected on a daily basis by designated facility personnel when in use. See Table F-1. Problems identified during routine inspections and corrective actions taken to correct the problems are documented on the inspection checklists. Corrective actions are initiated within 24 hours of discovery. Imminent hazards are addressed with immediate remedial action. Multiple areas within the storage units may be inspected on the same day; however, each inspection is required to be started and closed daily. Each checklist will include the information specified in F-2A General Inspection Requirements.

Emergency equipment inspections are conducted on a periodic basis in accordance with Table F-1. The frequency of inspections is based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration malfunction or operator error goes undetected between inspections.

F-2B Specific Process Inspection Requirements [3745-50-44, 3745-54-15]

F-2B(1) Containers [3745-55-74]

Waste containers are inspected weekly during the container storage area inspections conducted by designated facility personnel. The items inspected and types of potential problems checked for are listed in Table F-1.

F-2C Remedial Action [3745-54-15]

If inspections reveal that non-emergency maintenance is needed, the maintenance will be completed as soon as possible to minimize further damage and reduce the need for emergency repairs. If a problem is imminent or has already occurred during the course of an inspection or at any time between inspections, remedial actions will be taken immediately. Plant personnel will notify the appropriate authorities and initiate remedial actions. In the event of an emergency involving the release of hazardous constituents to the environment, the contingency plan will be implemented.

F-3 Waiver of Preparedness and Prevention Requirements [3745-50- 44]

PORTS does not request a waiver of preparedness and prevention requirements. Requirements of this Subpart are addressed in Sections D, F, and G of this application.

F-3A Equipment Requirements [3745-54-32]

F-3A(1) Internal Communications [3745-54-32]

The X-326 Storage Unit and the X-7725 Storage Unit are equipped with internal and external fire alarm systems that, when activated, provide for immediate response of emergency personnel. Personnel have immediate access to this alarm at all times. Emergency response services are provided by onsite emergency responders.

Sprinklers are located in the ceiling of the X-326 and X-7725 units and will activate in the event of a fire. The sprinkler system also activates the fire alarm systems described above.

The fire alarm box can be activated at any time and will provide for immediate response by emergency personnel.

An internal voice public address system is available in the X-7725 Storage Unit and building horns are available in the X-326 Storage Unit. Hand held two-way radios are used by waste handling personnel during all waste transport activities and can be utilized to notify emergency personnel. Telephones are also available for emergency use. PORTS maintains an internal emergency telephone number (911) to contact the onsite emergency responders. The telephones designated for use in the storage units are checked weekly to ensure that they are operable (Table F-1). See Section G for more information.

F-3A(2) External Communications [3745-54-32]

Telephones are located at X-326 and X-7725 Storage Units for emergency use. The telephones designated for use in the storage units are checked weekly to ensure that they are operable (Table F-1). PORTS maintains an internal emergency telephone number (911) to contact the onsite emergency responders. Upon notification, appropriate personnel will respond. External emergency response agencies can be contacted by the onsite emergency personnel, if necessary. See Section G for more information.

F-3A(3) Emergency Equipment [3745-54-32]

Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment are available for use in the storage units.

The Fire Department is fully equipped with emergency response equipment and maintains a supply of fire extinguishing media. All equipment is maintained as necessary to ensure proper operation in the event of an emergency (Table F-1). See Section G for more information.

F-3A(4) Water for Fire Control [3745-54-32]

PORTS has an on-site water supply of adequate volume and pressure for fire control at the container storage units. A regular schedule for inspections and testing of the fire water supply systems can be found in Table F-1.

Fire hydrants are located in the immediate vicinity of the X-326 Storage Unit and the X-7725 Storage Unit. See Section G for more information.

F-3B Aisle Space Requirement [3745-54-35]

Adequate aisle space is maintained to allow for the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment. Specific aisle space specifications are presented in Section D-1A(2).

F-4 Prevention Procedures, Structures and Equipment [3745-50-44]

Procedures, structures, and equipment used at the storage units to prevent hazards in unloading operations, run-off from hazardous waste handling areas to other areas of the facility or environment, contamination of water supplies, mitigate effects of equipment failure and power outages, and the undue exposure of personnel to hazardous waste are described in the following sections.

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F-4A Unloading Operations [3745-50-44]

Containerized hazardous wastes are transported by trained personnel to hazardous waste storage units by a method of transport that minimizes the potential for spills or releases of hazardous waste constituents. Transportation methods include, but are not limited to, a barrel truck, multi-position transfer cart, forklift, or barrel lift . A spill control kit is available on each vehicle for use in mitigating the effects of spills or leakage. Operations are normally conducted from 0730 hours to 1600 hours, Monday through Friday.

Equipment used in loading/unloading operations includes, but is not limited to, cranes, barrel lifts, forklifts (both with and without special barrel attachments), barrel hooks and clamps, hand carts, and platform lifts. All equipment is inspected daily, when in use (Table F-1). Ramps are used to facilitate the safe movement of containers into diked areas.

F-4B Runoff [3745-50-44]

Both storage units are located within enclosed buildings. All activities within the storage units are within diked areas. Any liquids resulting from container leakage or spills will be contained within the diked area.

An overall site drainage map, located in Section B, depicts paths of potential runoff from the X-326 Storage Unit and the X-7725 Storage Unit.

F-4C Water Supplies [3745-50-44]

Hazardous wastes stored at the X-326 Storage Unit and the X7725 Storage Unit are contained in DOT-approved containers and other containers as specified in Section D, Table D-1. Secondary containment for all wastes is provided by concrete or metal dikes and sealed concrete floors. Groundwater contamination is prevented by eliminating the discharge of hazardous materials onto the unprotected ground.

F-4D Equipment and Power Failure [3745-50-44]

No special equipment requiring external electrical power is needed at the storage units for normal operations. Emergency lighting is installed in both storage units and is maintained and inspected (Table F-1). Personnel will cease activities involving waste loading, unloading, or transfers until power is resumed.

Replacement material-handling equipment is readily available from other departments for use until repairs can be accomplished or permanent replacements procured. Facility equipment has either a redundant system, such as two separate exhaust systems, or has emergency backup power. The plant shift superintendent is informed of any unusual outages that last longer than 24 hours.

F-4E Personal Protection Equipment [3745-50-44]

Personal protective equipment is available in the storage units to all personnel, and proper use of the protective equipment is addressed by procedures available in each department involved in hazardous waste handling. These procedures and proposed changes are reviewed by industrial hygienists to ensure that the proper personal protective equipment has been specified.

Personal protection and required safety gear for the safe handling of hazardous wastes are addressed in the hazardous waste handling training program, as well as in procedures for the storage units. Personnel wear protective coveralls, safety shoes, safety glasses, gloves (type dependent on waste handled), and, if necessary, a respirator, as specified in procedures or for special cases as determined by supervision in consultation with industrial hygiene personnel. Hazardous chemical data and material safety data sheets are used to gather information on the characteristics of chemical components of the waste, including toxicity, ignitability, reactivity, corrosivity, route of exposure and other hazard information. See Section G for available response equipment. See Section H for a description of employee training.

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F-5 Prevention of Reaction of Ignitable, Reactive and Incompatible Wastes [3745-50-44, 3745-54-17]

F-5A Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes [3745-54-17]

Wastes stored at the X-326 and the X-7725 Storage Units are segregated according to the characteristics of the various wastes to prevent heat-producing chemical reactions. In areas where ignitable or reactive wastes are stored, "No Smoking or Open Flames" signs are prominently displayed.

Segregation of incompatible wastes is accomplished through the use of walls, dikes, or other effective methods for maintaining physical separation. See Section D-1 for more information.

F-5B General Precautions for Handling Ignitable or Reactive Wastes and Mixing of Incompatible Wastes [3745-50-44, 3745-54-17]

Segregation of wastes and the use of containers (as specified in Section D) minimizes the possibility of fire, explosion or unplanned sudden or non-sudden release of hazardous wastes caused by the incompatibility of the material with waste residues.

Ignitable waste storage areas are monitored for fumes and explosive gases with the exceptions of Area H in the X-7725 and X-326 storage unit. Area H of the X-7725 contains flow through ventilation only. In X-326, small quantities of ignitable wastes are stored in flammable cabinets which are regulated under NFPA standards. Containers are covered and stored in areas where adequate climate controls are available. Procedures for packaging and handling of laboratory waste chemicals are implemented by qualified commercial contractors or facility personnel.

Waste storage units are managed by trained waste handlers. Waste segregation is an integral part of the design and operation of the waste storage units. These units include features such as diking and containment systems and segregation by waste category, which prevent mixing of ignitable, reactive, and/or incompatible materials. Containers within these units are sealed and stored in appropriate areas and meet labeling and spacing requirements. The waste storage units have climate controls, as required. Explosion-proof tools and other safety devices are used in these units to ensure safe, environmentally sound handling of wastes.

F-5C Management of Ignitable or Reactive Wastes in Containers [3745-54-17]

Specific container management practices are presented in Section D.

F-5D Management of Incompatible Waste in Containers [3745-50-44, 3745-55-77]

Specific container management practices are presented in Section D.

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Table F-1
Inspection Schedule

Inspection or Equipment	Element of Inspection	Frequency
Container Storage Unit Inspections		
"Danger Unauthorized Personnel Keep Out," or equivalent, signs posted	missing or damaged signs	Weekly
Dikes	broken/cracked dikes or ramps	Weekly
Floors	cracked floor coating; spills, leaks, stains or other evidence of hazardous waste released	Weekly
Container Labeling (hazardous waste identification label)	damaged or missing labels, improper or incomplete information	Weekly
Container Integrity	corrosion, leaks, bulges, missing bungs, dents which jeopardize structural integrity	Weekly
Secondary Containment for liquid hazardous waste	absence of secondary containment for liquid hazardous waste	Weekly
Personal Protective Equipment	inadequate materials available, inventory not replaced	Weekly
Spill Control Equipment	inadequate materials available, inventory not replaced	Weekly
Aisle Space	aisle space blocked by containers or equipment	Weekly
Telephone system	power failure, equipment malfunction	Weekly
Loading/Unloading Areas		
Operating Equipment	malfunction, safety lights, horns, brakes	Daily, when in use
Container Integrity	corrosion, leaks, bulges, missing bungs, dents which jeopardize structural integrity	Daily, when in use
Container Labeling (hazardous waste identification label)	damaged or missing labels, improper or incomplete information	Daily, when in use
Dikes	broken/cracked dikes or ramps	Daily, when in use
Floors	cracked floor coating; spills, leaks, stains or other evidence of hazardous waste released	Daily, when in use
Building Inspections and Surveys		
Fire Prevention Inspection	housekeeping, fire hazards, blocked fire lanes and/or fire doors, access to equipment, etc.	Semi-annually

Table F-1 (continued)

Inspection or Equipment	Element of Inspection	Frequency
Fire Protection Engineering Surveys	risk evaluations, detailed hazard assessment	Annually
Automatic Sprinkler Systems		
Visual Inspection of wet pipe sprinkler and dry pipe sprinkler (risers only)	control valve status, gauge pressure, system hardware and associated equipment	Monthly
Main drainflow	flow test	Annually
Inspector's test valve	flow and alarm test	Annually
Trip test of dry pipe system	functional test	Annually
Operational inspection of sprinkler control valves	cycle valves	Annually
Fire Alarm Systems		
Manual pull stations	operational test	Annually
X-7725 evacuation buttons	operational test	Annually
Water Supply Systems		
Electric fire pump	operational test	Monthly
Diesel fire pump	operational test and battery test	Monthly
Diesel pump fuel supply level	check amount, refill as needed	Quarterly
Automatic starting test	operational test	Annual
Water flow test (underground piping)	hydraulic gradient	Every three (3) years
Hydrants	damage; flush	Annually
Capacity test (pumps)	functional test	Annually
Underground valves	cycle valves	Annually
Water storage tanks (exterior)	damage or leaks	Annually
Portable Fire Extinguishers		
Visual Inspection	operational test	Monthly
Carbon dioxide extinguisher hose	Continuity test	Annual

SUBMISSION DATE: February 21, 2000

Table F-1 (continued)

Inspection or Equipment	Element of Inspection	Frequency
Container hydrostatic test	per manufacturer's instructions	per manufacturer's instructions
Building Equipment and Facilities		
Standpipe systems	damage	Annually
Hose rollers	damage	Annually
Mobile Fire Apparatus		
Routine inspections and test	road test, equipment operational test, inventory	Weekly
Fire pump capacity test	functional test	Annually
Pumper truck hoses	hydrostatic test	Annually

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ACRONYMS

DOE	UNITED STATES DEPARTMENT OF ENERGY
OAC	OHIO ADMINISTRATIVE CODE
PORTS	PORTSMOUTH GASEOUS DIFFUSION PLANT
RCRA	RESOURCE CONSERVATION AND RECOVERY ACT
USEC	UNITED STATES ENRICHMENT CORPORATION

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SECTION G - RCRA HAZARDOUS WASTE CONTINGENCY PLAN

[OAC 3745-50-44 (A)(7), 3745-54-50 through 56]

Overview and Purpose of Plan

This Contingency Plan describes the actions facility personnel will take in response to fire, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents to air, soil, or surface water. To fulfill this purpose, the plan will be implemented immediately whenever one or more of these occurrences could threaten human health or the environment.

This document, as Section G of the Portsmouth Gaseous Diffusion Plant (PORTS) Part B Permit Application, is being provided as a stand-alone document which amends the facility's emergency plan (Portsmouth Emergency Plan) as allowed for in OAC 3745-54-52 (b) and 40 CFR 264.52 (B). While the Portsmouth Emergency Plan integrates the plant's planning processes into a single document designed to mitigate the consequences of an emergency, this Contingency Plan stands alone for response to hazardous waste incidents.

This Hazardous Waste Contingency Plan contains the following elements:

- Designation and responsibilities of personnel who are to act as emergency coordinators,
- Implementation procedures for instructions on how and when the plan will be followed,
- Descriptions of both plant internal and external alarms and notification systems,
- Assessment methods and control actions should an emergency occur,
- Location, description and capabilities of emergency equipment at the facility,
- Agreements with USEC and with local authorities and medical centers, for providing emergency management and fire protection,
- Details of evacuation plans, and
- Record keeping and incident reports

Philosophy

At PORTS, the shared philosophy on emergencies is to prepare and maintain emergency plans dedicated to principles of personnel safety, environmental protection and safe equipment operation. Consequently, the response measures provided within this plan are designed to provide maximum protection for both onsite and offsite personnel, limit damage to facilities and equipment, limit adverse impacts on the environment and minimize impacts on site operations and security. The following PORTS philosophy indicates our commitment to personnel safety and the protection of the environment.

"The emergency philosophy of the Portsmouth Gaseous Diffusion Plant (PORTS) is to provide and maintain emergency plans that are dedicated to the following principles; in order, personal safety, environmental protection, and safe equipment operation." Contamination control issues and environmental protection concerns are to be addressed by emergency responders following the identification, recovery and condition assessment/treatment of ill or injured personnel.

This policy shall be applied and enforced comprehensively; however, provision must be made for deviations during emergency operations -- thus allowing the Emergency Coordinator to be in a position to make decisions based upon circumstances found at the time of an emergency.

Copies of Contingency Plan [OAC 3745-54-53]

Although not listed on the Part B Permit Application checklist, this section is required by the referenced regulations. A copy of the Contingency Plan and all revisions are provided to all applicable departments at PORTS. These include: custodians of hazardous waste storage units, the United States Enrichment Corporation (USEC) Emergency Preparedness Department, the USEC Fire Department, the USEC Police Department and the USEC Plant Shift Superintendent's office.

SUBMISSION DATE: July 13, 2001

USEC, as part of an agreement to provide emergency management and fire protection sevice, obtains Letters of Agreement (LOAs) with offsite emergency planning and/or response organizations that have agreed to assist in the event of an emergency at PORTS. The Department of Energy (DOE)/Bechtel Jacobs Company LLC provides copies of the RCRA contingency plan to these organization as well as other interested stakeholders. This combined distribution list includes the following:

Scioto County

- Southern Ohio Medical Center
- Post 73, Ohio State Highway Patrol
- Scioto County Sheriff
- Scioto County Local Emergency Planning Committee
- Valley Local Schools
- Scioto County Emergency Mgmt. Agency

Pike County

- Pike Community Hospital
- Pike County Sheriff
- Pike County Emerg. Medical Service (6)
- Scioto Township Fire Department
- Beaver Fire Department
- Piketon/Seal Volunteer Fire Department
- Elm Grove Volunteer Fire Department
- Stockdale Fire Department
- Waverly High School
- USEC
- Word Alive Fellowship
- Pike County Fire Fighters Association
- Pike County Local Emerg. Plng. Com.
- Pike Forest Fire Department
- Waverly Fire Department
- Benton Township Volunteer Fire Department
- Jackson Township Volunteer Fire Department
- Camp Creek Fire Department
- Pebble Township Vol. Fire Department
- Pike County Schools
- Brush Creek Township Volunteer Fire Dept.

Ross County

- Adena Regional Medical Center Hospital

Others

- Ohio Environmental Protection Agency (3)
- United States Environmental Protection Agency
- United States Department of Energy
- Ohio Emergency Management Agency (OEMA)

Amendment of Contingency Plan [OAC 3745-54-54]

When the Contingency Plan is revised PORTS provides documentation to U.S. Department of Energy (DOE), and regulatory agencies, and all departments and organizations currently on the above plan distribution list. The plans are sent by certified return receipt mail to the offsite emergency planning and/or response organizations. The correspondence for distribution of a revised Contingency Plan includes an offer to familiarize the receiving organization with the changes in the plan.

G-1 General Information [OAC 3745-54-52]

The container storage units at PORTS are owned by DOE and are co-operated by DOE and Bechtel Jacobs Company LLC . The address for the facility is:

U.S. Department of Energy
Portsmouth Gaseous Diffusion Plant
3930 US 23 South
Piketon, OH 45661

The mailing address for all correspondence is:

Department of Energy
Portsmouth Site Office
Attention: Melda J. Rafferty
P.O. Box 700
Piketon, OH 45661

The primary contact for hazardous waste storage activities at PORTS is:

Bechtel Jacobs Company LLC
Attention: Gilbert D. Drexel, Manager of Projects
Environmental Management and Enrichment Facilities
P.O. Box 900
Piketon, OH 45661

The U.S. EPA Identification Number for DOE Operations at the Portsmouth Gaseous Diffusion Plant is:

OH7890008983

The Uranium Enrichment process and support facilities at PORTS are leased and operated by USEC. Emergency Response Services are available to Bechtel Jacobs Company LLC from USEC through a service agreement incorporated into the lease.

Location and Site Plan

PORTS is located near Piketon, in Pike County, Ohio, approximately 70 miles south of Columbus, on 3,714.01 federally-owned acres. The plant is two miles east of the Scioto River and one-half mile east of U.S. Route 23. The plant site consists of industrial facilities, including process buildings, several electrical switchyards, cylinder storage areas, cooling towers, a steam plant, a water treatment plant, a sewage disposal plant and pollution abatement facility, service and maintenance buildings and facilities for administrative, medical, fire and security activities. (See Figure G-1.)

PORTS is a Uranium Processing Facility with an end product being enriched uranium, used to produce fuel for the nuclear power industry. Obtaining the end product requires the use of numerous hazardous chemicals.

Employment at this facility is approximately 1750-2200.

Figure G-1 presents a layout of plantsite and shows the location of the X-326 and X-7725 Container Storage Units, the location of onsite Emergency Response Facilities, and roads and entrances inside the facility. The evacuation plans and routes are presented in Section G-7 of this Contingency Plan. USEC provides emergency response and fire protection services for the container storage units through a service agreement incorporated into the lease.

Planning Area

For the purpose of planning and response, a two-mile planning area has been established for the areas immediately surrounding the plant which could be affected by releases of hazardous substances and toxic chemicals, hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents.

This area is the two-mile immediate notification area (INA), within a two-mile radius of the plant. This area extends out from the center of the plant. If a protective action is recommended, a public warning system alerts persons residing within the immediate notification area to seek shelter and tune to an Emergency Broadcast Station (EBS) for further information. (See Figure G-2.)

Topographical features within the planning area include the Scioto River two miles to the west and numerous wooded hills. Sensitive facilities located within the planning area include a nursing home and an electric utility.

No schools are located within the immediate notification area. However, county school buses frequently travel al' roads within this area.

Since PORTS is not a nuclear reactor site, emergency planning requiring an "ingestion exposure pathway" has not been considered. Such accidents would involve sequences of successive failures more severe than those postulated during the design of this plant. The Ohio Emergency Management Agency, the Pike County Emergency Management Agency, DOE, and the PORTS Emergency Management Department have determined that emergency planning is only necessary to a two-mile radius of the plant.

Land Use

A number of businesses are located west of the facility, just inside the immediate notification area. To the south and east is an area of wooded hills with scattered homes in the valleys. Land use on the western boundary of the immediate notification area is primarily agricultural, with scattered farmhouses and outbuildings amid the fields. The area north of PORTS includes residential and commercial development as well as an area of undeveloped woods and farmland.

Transportation Routes

A north-south transportation corridor containing both the Norfolk Southern Railroad and U.S. Route 23 is located approximately one-half mile west of the facility. State Route 32, an east-west highway, is located to the north of the facility outside the immediate notification area.

Hazardous Waste Storage

Buildings described in this plan are depicted on Figure G-1. DOE operates two Resource Conservation and Recovery Act (RCRA) hazardous waste storage units:

- X-326 Container Storage Unit
- X-7725 Container Storage Unit

X-326 Container Storage Unit

The X-326 Storage Unit is located in the central part of the DOE Facility. The X-326 Building has been in use since 1956. The structure is 2,230 feet long, 552 feet wide, 62 feet high and contains 58 acres of floor space. The X-326 Building is totally enclosed with a built up roof, transite walls and concrete floors. There are six areas of the building, totaling approximately 31,888 square feet, designated for the storage of hazardous waste. The storage areas are located on the first floor towards the south end of the building.

The X-326 Storage Unit is intended for the storage of high assay uranium-bearing hazardous and/or polychlorinated biphenyl wastes until further processing for uranium recovery or treatment through a permitted process is obtained. The wastes will include aqueous laboratory solutions, spent laboratory solvents and decontamination solutions from other buildings on plantsite. All containers will be constructed to Department of Transportation (DOT) specifications where available. All storage areas will have appropriate containment structures and will comply with regulatory design requirements for storing wastes.

The X-326 Storage Unit was designed and intended for the storage of high assay uranium bearing wastes until further processing for uranium recovery or treatment through a permitted process, such as a National Pollutant Discharge Elimination System-permitted discharge. The wastes that may be stored in the X-326 Storage Unit include aqueous laboratory solutions, spent laboratory solvents, and decontamination solutions from several other buildings on the plantsite.

Wastes stored in the X-326 Storage Unit may include:
D001 - Ignitables
D002 - Corrosive (acid and alkaline)
D004-D043 - TC Characteristic
F001, F002
F003, F005
Radioactive RCRA Wastes

Toxic Substance Control Act/RCRA Mixed Wastes
Radioactive/Toxic Substance Control Act/RCRA Mixed Wastes

The wastes are stored in a variety of containers, but are usually stored in DOT approved 55-gallon drums or 5-inch diameter/10-liter polyethylene bottles. Other containers as listed in Table D-2 of Section D of this application may also be used. The containers are stored on steel supports or are placed into support sleeves which are raised above the floor to prevent contact with potentially inadvertent standing liquid introduced into the area.

The X-326 Storage Unit is located in the south end on the first floor of the X-326 Process Building. Figure D-3 shows the floor plan for the X-326 Storage Unit. The X-326 Building is totally enclosed with a built-up roof, transite walls and concrete floors. Heating and cooling is provided as needed in the RCRA-permitted storage areas. The area around the building is sloped to direct run-on and run-off water to the PORTS storm sewer system.

Approximately 31,888 square feet of the X-326 is designated as storage space and will be used as required until final closure is initiated.

Five waste areas in the X-326 Building are delineated for storage: Areas 1, 2, 3, 4, 5 and the "L" Cage (the "L" Cage consists of both the east cage and the west cage). Storage area floors for 1, 2, 3, 4 and 5 were cleaned, sealed, primed and finished with a urethane-based sealant in 1992. The "L" Cage area was cleaned, any existing concrete cracks (these are "cosmetic" cracks in the surface of the concrete and not significant structural faults) sealed with a sealant (Silka Pronto 19 or equivalent), and recoated with one coat of urethane sealant (Tennant No. 122). All storage areas are surrounded by a 1" x 1" x 1/8" angle iron dike set in a chemically resistant elastomeric sealant. The floors are 0.8 feet thick and constructed out of concrete.

X-7725 Container Storage Unit
The X-7725 Storage Unit was originally designed and intended for the Gaseous Centrifuge Enrichment Plant (GCEP). After the GCEP was canceled, the X-7725 Building was selected to be upgraded to a RCRA-permitted hazardous waste storage warehouse since it has a large area of floor space kept under climate-controlled conditions and can meet applicable Part 264 RCRA standards. The building consists of five floors with 20 acres of total floor space, approximately 9 acres of which are suitable for waste storage. There are areas for receiving and storing materials, testing and inspection of parts, and manufacturing/assembly of machines. Consequently, the building is divided into a number of rooms, staging areas, open bays, and offices.

The area immediately surrounding the building has been graded to prevent run-on of rainwater. The X-7725 Building has built-up roofing over rigid insulation and metal decking. Room and bay ceiling heights range from 11 feet to 75 feet. Each level of the roof is designed to direct rainwater drainage to metal down-spouts, which discharge to a storm sewer. The flooring is constructed of reinforced concrete slabs varying from 6 to 17 inches thick. The entire building is climate-controlled.

The waste that may be stored in the X-7725 RCRA unit are the following: product and process waste designated as RCRA types F, P and U, RCRA characteristic wastes, "mixed wastes" (both radioactive and hazardous wastes) and combinations of the above wastes. The majority of the wastes stored in the X-7725 Building are from environmental restoration activities and non-halogenated solvents and/or radioactive wastes from laboratories, decontamination solutions, and a variety of plant processes and clean-up operations. The remainder of the wastes are from a variety of diffusion process activities and are primarily toxic due to metal and solvent constituents.

The wastes are primarily stored in new DOT approved 55-gallon drums, 5 inch diameter/10 liter polyethylene bottle, or 4'x4'x6' boxes. Containers are elevated during storage to prevent contact with potentially inadvertent standing liquid introduced into the area.

RCRA storage areas located on the first and fourth floor of the X-7725 Building have been modified to accommodate mixed waste storage. The modifications involved:

- Diking to an appropriate curb height,
- Sealing floor cracks/joints,
- Making special provisions for nuclear criticality safety where required,
- Upgrading the electrical, fire protection, and HVAC systems,

- Coating with an "impervious" sealant,
- and providing vehicle and pedestrian ramps.

All storage areas of the X-7725 Building have dikes to ensure an adequate containment capacity of 10% of the total waste volume stored and 25% of the total where Toxic Substance Control Act wastes are stored. The floor of the X-7725 Building is free of cracks and gaps. Rough or spalled areas of the floor are repaired with a polymer-modified portland cement. Cracks in the floor are sealed with a modified-methacrylate cracks/healer/penetrating sealer or an epoxy injection adhesive as appropriate for the number and size of the cracks. Expansion joint gaps are filled with a polyurethane elastomeric sealant. Control joint gaps are filled with a flexible epoxy control joint sealer/adhesive. To further ensure the base is capable of containing any liquids which may accumulate, the floors in all storage areas are sealed with a chemically resistant sealant before any wastes are stored in these areas.

G-2 Emergency Coordinators [OAC 3745-54-52 (D), 3745-54-55]

The primary contact as Emergency Coordinator is Lewis C. Goidell. However, at PORTS alternates are referred to as Plant Shift Superintendents, who are on duty 24-hours a day and serve as Emergency Coordinator while on duty. The Plant Shift Superintendent is a USEC employee and serves as an alternate through an agreement between Bechtel Jacobs Company LLC and USEC. A Plant Shift Superintendent is on duty 24 hours a day. When the Plant Shift Superintendent responds to an incident scene and takes charge, he becomes the Incident Commander. The Plant Shift Superintendent is the on-site expert in emergency response procedures and has the responsibility of notifying the proper authorities for assistance. The responsibilities of the incident commander, as well as the notification procedures, are stated in this contingency plan. The Incident Commander has full authorization to commit all necessary resources to alleviate the emergency. Additionally, individuals have been identified by the primary contact that will respond if additional personnel are needed.

In the event of an emergency, the telephone number that will reach the on-duty Plant Shift Superintendent fro an offsite phone is (740) 897-3025. If the caller is onsite, he/she would call the Plant Shift Superintendent extension 3025. Onsite personnel can notify emergency responders by calling the plant emergency extension, 911 on any plant telephone.

The Plant Shift Superintendent is delegated the responsibility by PORTS management, to supervise site emergency response activities on all shifts. The Plant Shift Superintendent is authorized to make protective action recommendations for both onsite personnel and offsite populations.

The PORTS Emergency Response Organization (ERO) is staffed with trained personnel with expertise in responding to emergency situations. The Emergency Response Organization is at the service of the Plant Shift Superintendent when acting as the Incident Commander.

United States Enrichment Corporation Plant Shift Superintendents provide coverage at PORTS. The names of the Emergency Coordinators (Plant Shift Superintendents) are shown in Table G-1.

G-3 Implementation [OAC 3745-54-51(B), 3745-54-56(A), 3745-54-56(D)]

The Contingency Plan is to be implemented immediately whenever a condition arises that may threaten human health or the environment as a result or potential result of the involvement of hazardous wastes. These conditions include unplanned sudden or non-sudden releases, fires, or explosions.

Any person discovering an emergency involving hazardous waste onsite should immediately implement the Contingency Plan by alerting the Plant Shift Superintendent/Incident Commander and the Plant Emergency Response Organization. Methods used to alert the Plant Shift Superintendent and thereby implement the plan include:

1. Radio to X-300 Plant Shift Superintendent; or,

2. Dial 911 on any plant phone and report to answering party;

3. Pick up red emergency phone (in selected areas); or,

4. Dial 3025 for the Plant Shift Superintendent.

5. Pull fire alarm box. Remain near the alarm box, if possible, until the Plant Shift Superintendent/Incident Commander or Fire Department arrives; then provide details.

6. Dispatch someone to summon assistance.

After implementing the Contingency Plan, the person discovering the emergency should do whatever can safely be done to minimize the impact of the emergency, including but not limited to performing local evacuation, equipment shutdown or valving isolation, and performing necessary first-aid, if appropriate.

This Contingency Plan will be implemented in the following situations:

1. Fire and/or explosion

   A. A fire causes the release of toxic fumes, hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents.

   B. A fire spreads and could possibly ignite materials at other locations onsite, thus releasing hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents or could cause heat induced explosions, thus releasing hazardous contaminants.

   C. Use of water or water and chemical fire suppressant could result in contaminated runoff.

2. Spills or release of hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents.

   A. The spill could result in the release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.

   B. The spill could cause the release of toxic liquids or fumes.

   C. The spill can be contained onsite, but the potential exists for groundwater contamination.

   D. The spill cannot be contained onsite, resulting in offsite soil contamination and/or ground or surface water pollution.

Regardless of the unit involved or source of hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents or any release posing an imminent danger to human health or the environment will result in plan implementation. If the Plant Shift Superintendent/Incident Commander determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he will report his findings as follows:

1. To local authorities if an evacuation offsite is requested, and must be available for their consultation

2. To government officials or the National Response Center (using 800/424-8802) and include:

   A. Name and phone number of reporter;
   B. Name and address of facility;
   C. Time and type of incident;
   D. Name and quantity of material(s) involved, to the extent known;
   E. The extent of injuries, if any; and
   F. The possible hazards to human health, or the environment, outside the facility.

3. To Ohio Emergency Response Team @ 800/282-9378.

G-4 Emergency Response Procedures [OAC 3745-54-52 (A)]

The PORTS USEC Emergency Response Organization is prepared to respond by agreement to emergencies involving DOE facilities or requiring DOE assistance. The Emergency Response Organization is responsible for taking immediate mitigative and corrective actions to minimize the consequences of an incident to workers, public health and safety, and the environment.

The Emergency Response Organization is staffed with trained personnel who are required to participate in formal training, drills and exercises and respond if notified of an incident. The incident type and severity dictate the level of Emergency Response Organization activation.

The Emergency Response Organization has the following specific functions and responsibilities depending on the incident and level of response needed to mitigate the problem: event categorization, determination of emergency class, notification, provision of protective action recommendations, management and decision making, control of onsite emergency activities, consequence assessment, protective actions, medical support, public information, activation and coordination of onsite response resources, security, communications, administrative support and coordination and liaison with offsite support and response organizations.

Field Response

The Plant Shift Superintendent is delegated the responsibility by PORTS Environmental Management & Enrichment Facilities Site Manager to supervise site emergency response activities on all shifts. The Plant Shift Superintendent is authorized to make protective action recommendations for both onsite personnel and offsite populations.

The Incident Command System (ICS) is used by PORTS response for managing an incident at the scene. The Incident Command System provides a standard system for responding to all types of incidents. The two major functions of the Incident Command System are safety and efficiency. The system consists of personnel, facilities, equipment, communications and procedures operating within an organized structure to accomplish control of the incident.

When the Plant Shift Superintendent responds to the incident scene and takes charge, the Plant Shift Superintendent becomes the Incident Commander. The Incident Commander establishes a command post at a safe distance away from the incident scene in an upwind direction. All requested field response units report to the command post and receive directions from the Incident Commander for response actions.

All emergency personnel should be provided with as much information as possible, concerning the nature and hazards of the incident they are responding to. This information should include wind direction and speed, possible location of the Command Post, and any areas to avoid. Any changes in the conditions at the incident scene must be passed quickly to all responders.

The Plant Shift Superintendent/Incident Commander is located in the X-300 Plant Control Facility (PCF) which serves as the 24-hour point of contact for all emergency notifications. The Plant Shift Superintendent/Incident Commander:

- Provides continuous site-wide emergency direction;
- Directs the effort to respond to an incident;
- Assesses the incident and makes initial categorization/classification;
- Alerts and mobilizes sufficient response forces, including technical assistance, to respond to the requirements of the emergency;
- Directs plant or facility shutdown if necessary in accordance with existing plans and procedures; and
- Ensures communications with the Emergency Operations Center (EOC), when appropriate.
- Emergency responders who routinely report to the Command Post include:

- Plant Shift Superintendent/Incident Commander
- Response Safety Officer
- Police Force
- Local Emergency Director
- Fire Department

The following organizations are called on by the Incident Commander, when necessary:

- Environmental Compliance
- Industrial Hygiene
- Nuclear Safety
- Maintenance
- Waste Management
- Health Physics
- Medical
- Utilities
- Facility Operations

In addition, offsite Emergency Response Organizations are available to assist the onsite Emergency Response Organization when needed.

Emergency Operations Center

When the Emergency Operations Center becomes operational, overall command and control of the PORTS Site Emergency Response is transferred to the Crisis Manager, allowing the Incident Commander to focus on conditions and mitigation at the emergency scene. The Emergency Operations Center is located in the X-1020 Building and becomes the primary facility for coordinating onsite response and mitigation and offsite interface activities. The Emergency Operations Center is composed of an emergency information center where members of Senior Management and advisors operate, coordinate activities and communicate with onsite and offsite personnel; a Crisis Management Room (CMR) where the Crisis Management Team (CMT) is stationed to follow events and direct actions; a Technical Support Room (TSR) where the TSR Coordinator advises and directs the activities of the technical support group; a radio room where personnel monitor and transmit information; a computer room which houses the information management system; and an area where security personnel coordinate the activities of the protective force. The emergency line of executive succession for the Crisis Manager's position is shown in the next section.

The Plant Shift Superintendent will activate the Emergency Operations Center in the event of any emergency classification: alert or site area emergency. The Emergency Operations Center may be activated at any classification level or when deemed necessary. The Plant Shift Superintendent or alternate or the Enrichment Plant Manager or alternate are authorized to activate the Emergency Operations Center. Alternate Emergency Operations Centers include the X-300 Plant Control Facility and the Mobile Communications Vehicle. Emergency Operations Center service is by an agreement between USEC and Bechtel Jacobs Company LLC.

Emergency Line of Executive Succession

In the event of a significant emergency at PORTS, emergency executive succession of command shall be in the order listed below. If none of the management listed are available in the plant, the Plant Shift Superintendent shall assume command as well as fulfill his responsibilities as Incident Commander. The Plant Shift Superintendent will be relieved of the executive command duties by the first person to arrive as identified from the list below. PORTS does not consider those named on the list of "Emergency Line of Executive Succession" to be Emergency Coordinators. The Plant Shift Superintendent/Incident Commander continues his obligations for oversight of the emergency response.

- General Manager
- Plant Manager
- Other personnel as designated by the General Manager and trained and qualified as Crisis Manager.

G-4A Notification [OAC 3745-54-56 (A)]

This section describes the methods used for notifying PORTS Emergency Response Forces, other plant personnel and appropriate Local, State and Federal Agencies in time of an emergency.

Notification refers to required communication within mandated time frames and according to a predetermined sequence, of general information on the nature and severity of an emergency event. Notification is different from reporting because it must occur without delay for the purpose of alerting or activating, rather than informing. Notification requirements vary according to reported event level and may continue to change depending upon preliminary classification, ongoing assessments, full classification and any changes in classification.

The Plant Shift Superintendent is responsible for categorizing an event as an emergency and assigning an emergency classification. The Plant Shift Superintendent is responsible for initial notifications in accordance with Federal and State Regulations. Subsequent notifications may be the responsibility of the Plant Shift Superintendent in his role as Incident Commander or the Crisis Manager after the PORTS Emergency Operations Center becomes operational.

In any event, a prearranged format is used to ensure that the content of the notification message(s) includes the emergency classification, whether a hazardous substance and toxic chemical, hazardous waste or hazardous waste constituent, mixed waste or mixed waste constituent release is occurring or expected and identification of the response and/or protective actions taken or recommended.

Figure G-3, Emergency Notification Form (or a similar form that meets RCRA regulatory requirements), is used for notification of an emergency. Predesignated offsite agencies are notified within 15 minutes of classification of an emergency.

Primary and Alternate Systems

Primary and alternate systems are in place for notifications to the Emergency Response Organization and offsite agencies. Periodic testing is conducted according to site Emergency Preparedness Implementing Procedures.

Notification of Onsite Personnel

Members of the PORTS Emergency Response Organization are notified of a need to respond to an emergency by a variety of ways including automatic alarms, pagers, radios, public address system and telephones.

Plant personnel not assigned to the Emergency Response Organization receive notification of an onsite emergency condition by one of eight different alarms followed by announcements over the plant's public address system. An example of plant alarms includes a continuous sounding alarm that means for plant personnel to evacuate a building and go to their assigned assembly area. To account for all plant personnel, the accountability alarm consists of seven (7) short blasts repeated three (3) times.

Notification of State and County Governments

Telephone notification is made to the Pike County 24-hour Contact Point and the Ohio Emergency Management Agency and the Ohio Environmental Protection Agency. When a site area emergency is declared, the notification to the county's 24-hour Contact Point will include a reminder that at the site area emergency classification the public warning system will be activated to notify the residents in the two-mile immediate notification area (INA).

The public warning system consists of five outdoor warning sirens, tone alert radio receivers, and the Emergency Broadcast System (EBS).

Notification of DOE Headquarters and DOE Oak Ridge Field Office

Notification to DOE Headquarters and the DOE Oak Ridge Field Office is made by telephone or verbal or facsimile messages.

Notification of Bechtel Jacobs Company LLC Corporate Personnel

Corporate personnel are notified of an emergency at PORTS by telephone or verbal or facsimile messages.

G-4B Identification of Hazardous Substances and Toxic Chemicals [OAC 3745-54-56(B)]

Upon arrival at the scene of an emergency, the Plant Shift Superintendent/Incident Commander will immediately make an assessment of the character, source, amount and extent of the release that has occurred. Resources such as storm sewer and water line drawings used to identify potential flow/contamination paths are shown in Figure G-4.

In the event of a release, fire, or explosion, the identification of hazardous substances and toxic chemicals, hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents in the X-326 and X-7725 Waste Storage Units would be accomplished by direct observation of the leaking container or by the container inventory system maintained by the Waste Management (WM) Division.

This system maintains an accountability for each container. The record for a container includes the generator data, analytical results and location in the storage unit. Because the wastes are segregated by compatibility and type, the location of the emergency may identify the material. The accountability systems are updated as frequently as necessary (often daily) to maintain an accurate container inventory.

The container inventory system is computerized with backup of data in a filing system. The data for any given container can be accessed from a computer terminal within five (5) minutes. Communications with Waste Management would be by telephone or radio. Should power be interrupted, and the computer system become inoperable, the paper back-up filing system would be used. By the location of the incident, Waste Management personnel could locate the proper files which will reveal the contents of the containers involved. A third method of identification is the collection and analysis of samples. All sampling of air, soil, water, or pooled wastes will be performed in accordance with established standards, such as SW-846, ASTM, or others. All analyses will be performed in accordance with regulatory agency approved methods, such as SW-846 or in the case of radioactive contamination, in accordance with laboratory analytical methods/standard operating procedures.

G-4C Hazard Assessment [OAC 3745-54-56 (C)]

In the event of an emergency, the Plant Shift Superintendent/Incident Commander has at his disposal any and all personnel and resources to assist and/or advise in the assessment of the situation and its amelioration. The Plant Shift Superintendent/Incident Commander will base the assessment on all available information including process knowledge, material safety data sheets, models of air, surface water or groundwater flow patterns, and specific health based environmental criteria or limits which may be exceeded. Environmental surveillance air sample data, at a minimum, will be collected and evaluated. By utilization of this existing database and trained personnel, the Plant Shift Superintendent/Incident Commander will be able to assess both the direct and indirect effects potentially caused by the emergency. Personnel routinely available to the Plant Shift Superintendent/Incident Commander for advice and consultation include those with skills and experience in chemistry, biology, engineering, industrial hygiene, safety, regulatory compliance, process engineering and operations, health physics, medicine and other sciences. Key personnel are on call to respond to the Plant Shift Superintendent/Incident Commander at any time. If the appropriate personnel are not promptly available, the Plant Shift Superintendent/Incident Commander has been granted the authority by plant management to act on the available information and to utilize his best judgment. Existing plant emergency procedures, methods, and policies, with which the Plant Shift Superintendent/Incident Commander and the Shift Emergency Response Organization are routinely trained and exercised, provide the Plant Shift Superintendent/Incident Commander with the assistance to exercise his best judgement with confidence.

If the assessment of the emergency situation indicates that evacuation of plant personnel is required, the Plant Shift Superintendent/Incident Commander will notify the necessary personnel and area or building evacuation will be initiated. If it is determined that offsite populations must be evacuated, the Plant Shift Superintendent/Incident Commander will follow the guidelines as set forth in this contingency plan and local community response plans.

This Section also describes the protective actions developed to limit exposure of plant personnel and the public during an emergency at PORTS.

Protective Actions for Onsite Personnel

Protective actions for onsite personnel (including visitors and contractor personnel) includes alerting, assembly and accountability, evacuation, monitoring and decontamination.

Plans have been developed for protection and accountability of onsite personnel within 45 minutes (not to exceed 60), including identification of special conditions, locations of assembly areas and provisions for onsite sheltering-in-place. Upon notification of an emergency by the Plant Shift Superintendent, emergency response forces proceed to their response locations. Plant personnel not assigned an emergency response position and contractors proceed to a designated monitoring station or assembly point. Visitors remain with their escorts and are accounted for.

Evacuation of personnel is ordered by the Plant Shift Superintendent or Crisis Manager whenever it is determined that a threat to the safety of plant personnel exists. Directions on the specific evacuation routes are provided. The appropriate decision of an assembly point and evacuation route is determined based upon plant conditions, wind direction and weather.

Decontamination can be conducted by the Medical Department at an established decontamination area. Decontamination is conducted at the hospital or at an established area directed by the Plant Shift Superintendent.

Protective Response for the Public

The Plant Shift Superintendent or Crisis Manager (after activation of the Emergency Operations Center) is responsible for providing protective action recommendations to local officials as part of initial notifications and follow-up communications. These recommendations are based on assessment actions and a thorough understanding of the actual or potential plant conditions. These recommendations can follow the three broad pathways of exposure:

- Airborne radioactive exposure (inhalation)
- Food chain exposure (ingestion)
- Deposition exposure (external whole body).

Recommendations may address protective actions during the emergency, restorative actions following cessation of emergency conditions, and return to "normal" in the affected areas.

Emergency Exposure During Rescue and Recovery Operations

Controlling exposure to radiation during rescue and recovery actions is extremely complex. Multiple hazards and alternate methods are to be taken into account; prompt, sound judgment and flexibility of action are crucial to the success of any emergency actions. The risk of injury to those persons involved in the rescue and recovery activities should be minimized to the extent practical. The control of radiation exposures should be consistent with the immediate objectives of saving human life, protecting health and property, and recovering deceased victims.

Onsite Sheltering In-Place

Notification of a recommendation of sheltering-in-place is carried out by the Plant Shift Superintendent on the public address system and other available communication systems. Sheltering-in-place calls for employees to:

1. Go indoors immediately;
2. Close all windows and doors;
3. Turn off all sources of outdoor air (fans, air conditioners); and
4. Remain indoors and listen for additional information on the public address system.

Offsite Sheltering In-Place

The two-mile immediate notification area is established around PORTS to assist in notifying the public to shelter-in-place or to provide instructions for the public to evacuate the area.

When it is determined that sheltering-in-place is the recommended action for residents living within the immediate notification area, the Pike County Sheriff's Dispatcher or the Plant Shift Superintendent activates the public warning system. This system consists of five outdoor warning sirens, tone alert radio receivers and the area Emergency Broadcast System (EBS). The five electronic sirens can produce five different alerting tones as well as broadcast voice messages over the public address system. The activation of the warning system is a signal for the neighboring residents to go indoors, shelter-in-place and tune to the area Emergency Broadcast System radio and television stations for further instruction.

Evacuation of Local Populations

In case of a gradually developing emergency event or advance warning of a potential emergency event with significant risk if the public remains in place, Pike County officials may issue evacuation orders. This information is disseminated by using the public warning system. Any residents living outside the immediate notification area who are in the path of any hazardous substances and toxic chemicals plume will be warned by county emergency forces going door to door. Evacuation routes and emergency shelters, based upon the situation and assumptions, will be announced when the public warning system is activated.

G-4D Control Procedures [OAC 3745-54-52 (A)]

General responsibilities of personnel and procedures to be taken in the event of fire, explosion or release of a hazardous substance and toxic chemical, hazardous waste or hazardous waste constituent, mixed waste or mixed waste constituent to air, land, or water are delineated in this Contingency Plan, which is distributed to all appropriate onsite emergency response departments and offsite response organizations. Each PORTS department has specific responsibilities and duties established in departmental procedures.

A summary of the Plant Shift Superintendent/Incident Commander minimum response to emergencies follows:

Because of the variety of potential hazards and conditions encountered, the most effective emergency control is supplied through prompt appropriate action. The action is initiated by the Plant Shift Superintendent. Certain duties and responsibilities of the Plant Shift Superintendent/Incident Commander are spelled out in various manuals and procedures. The duties and responsibilities listed hereunder are the minimum actions to be taken by the Plant Shift Superintendent/Incident Commander immediately following receipt of warnings or knowledge of emergency incidents. It is expected that the Plant Shift Superintendent/Incident Commander will make additional decisions during any incident in keeping with information available to him at the time and for occurrences peculiar to a particular incident not covered herein. The Plant Shift Superintendent/Incident Commander will arrange for suitable communications for all emergencies.

Each container storage unit has one individual designated as the local emergency director (LED). This person has responsibility in emergencies for the initial actions to protect the personnel within that building. These responsibilities include knowledge of processes and how to control them, access and evacuation routes, and overall security of that area.

Should the emergency occur in only a small area of the facility (e.g., one section of a building), the Plant Shift Superintendent/Incident Commander has the option of leaving the Command Post where initiated or moving it to a more controlled area. This Command Post becomes the focal point of emergency operations.

In order to facilitate the coordination of field activities during any major incident, the Plant Shift Superintendent/Incident Commander will, at the first opportunity, call in an additional Plant Shift Superintendent. Upon arrival, the additional Plant Shift Superintendent will assist as requested by the Plant Shift Superintendent/Incident Commander already on duty.

Warnings (All Types)

If the situation does not warrant plantsite evacuation:

A. Direct activation of the X-1020 Emergency Operations Center, including notifying the necessary Emergency Operations Center support personnel.

B. Implement applicable operating methods.

C. Maintain communications with the Emergency Operations Center.

If the situation warrants plantsite evacuation:

A. Direct notification to plant management to prepare for plantwide evacuation.

Critical Reaction

A. Request evacuated personnel to report to monitoring stations and await arrival of monitoring station directors - then assign monitoring station directors to occupied stations.

B. Notify the General Manager and activate the Emergency Operations Center.

C. Notify the Police Department to establish traffic control.

Fire on Plantsite

A. Arrange suitable communication with the local emergency director and the Command Post.

B. Coordinate and direct the activities of the various service groups through the supervision of those groups.

C. Request mutual aid from community fire departments, if required.

D. Determine the termination of the "state of emergency."

E. Cause the "all clear" signal to be broadcast over all plantsite radio networks and the plant public address systems.

Whenever it becomes apparent or it has been reported that an employee has been seriously exposed to a hazardous, toxic, and/or radioactive gas or aerosol, without proper respiratory protection, that employee should be treated in the same manner as a physically injured employee, (i.e., the employee should be transported to a medical facility immediately).

Whenever an employee is involved as above in a plant emergency, it will be the responsibility of the Plant Shift Superintendent/Incident Commander to expedite the employee's delivery to a medical facility. When plant medical facilities are not occupied by medical personnel, a doctor or a nurse should be contacted immediately. If necessary, the patient should be transported immediately to an offsite medical facility. The person in charge of the medical facility must be given the following information for each patient involved:

A. Type of material(s) to which employee was exposed.

B. Relative severity of exposure.

C. Patient symptoms observed.

D. Time of exposure and total time patient was exposed.

E. Treatment given - (if any).

In order to assure complete coverage, the Plant Emergency Response Organization (Fire Department, Police Department, Health Physics, E-squad, and other responding personnel) will be depended upon by the Plant Shift Superintendent/Incident Commander to be ever alert for potential patients and to advise the Plant Shift Superintendent/Incident Commander accordingly.

It will be the responsibility of the person in charge of the medical facility to determine the kind of treatment necessary and to expedite treatment to the patient.

The medical director will be responsible to assure adequate training of plant medical facility personnel and insure agreement for proper treatment at offsite hospitals.

G-4E Prevention of Recurrence or Spread of Fires, Explosions, or Releases [OAC 3745-54-56 (E)(F)]

During an emergency response at either the X-326 or X-7725 storage units the Plant Shift Superintendent/Incident Commander is required to order action deemed necessary to prevent the occurrence, recurrence or spread of fire, explosion or release of hazardous substances and toxic chemicals, hazardous waste or hazardous waste constituents, mixed waste or mixed waste constituents. These actions may include but are not limited to: removal of waste containers, environmental and health physics monitoring, and the sealing off of the building from the drainage system (preventing the runoff from entering the drainage system) for the purpose of containing hazardous and/or radioactive materials and surface runoff.

The West Drainage Ditch and the X-230K South Pond have emergency containment capacity and this capacity can be utilized if the Plant Shift Superintendent/Incident Commander deems necessary. Note: heavy precipitation, primarily rainfall episodes, can result in significant reduction of emergency effluent impoundment holding times.

The Plant Shift Superintendent/Incident Commander is also responsible for ensuring that monitoring for leaks, pressure or level buildup, gas generation, or rupture is provided if operations in the storage unit must be stopped. This monitoring may be carried out by direct observation, process knowledge, chemical analysis if necessary, and any other procedures deemed necessary.

G-4F Storage and Treatment of Released Material [OAC 3745-54-56(G)]

Immediately after the emergency, all intact waste containers (polybottles/drums) will be inspected for leaks, bulges, or any other indication that the container may have been compromised. If the container is in good condition, it will be moved to a temporary location where containment and weather protection are afforded.

If the container has been compromised, the remaining contents will be transferred to a new container and will be placed in the temporary location. Detailed steps for repacking are provided in Waste Management operating procedures. All labeling will be replaced as necessary.

In the event a spill or release of hazardous waste or hazardous substance and toxic chemical, hazardous waste or hazardous waste constituent, mixed waste or mixed waste constituent escapes the building and contaminates the soil, the following steps will be taken to assure that all soil containing hazardous constituents has been removed and containerized.

1. Soil showing visible contamination will be excavated immediately.

2. A statistically valid sampling plan that considers the soil type, properties of the spilled material, area affected, volume of the spill and other factors will be developed.

3. This sampling plan will guide the confirmatory sampling and any additional excavation.

4. Background will be determined by applying the sampling plan to a similar but unaffected area nearby.

5. Excavation will cease when the analyses show results less than the mean plus two sigma of the background.

Any recovered waste, contaminated water, or other contaminated material will be characterized and placed in containers as specified in Table D-1. Contaminated water may also be treated in one of PORTS groundwater treatment facilities and released through a PORTS permitted NPDES outfall.

The temporary storage location will be located within an unaffected area of the following storage units, X-326 and X-7725, and be used until repairs are completed or a new permanent site is located. No new hazardous waste storage operations or activities, beyond recovery activities, will be initiated without obtaining prior DOE and regulatory agency approval.

In the event of a fire at any RCRA facility, the primary goal following the fire extinguishment is the containment of the contaminated runoff to the maximum extent possible. In order to attain that goal, the following steps will be taken:

1. As soon as possible after the notification of the fire is received, the Plant Shift Superintendent/Incident Commander will order the closure of the appropriate holding pond. For the X-326 Storage Unit, flow through the South Holding Pond and/or the West Drainage Ditch can be stopped by closing effluent control valves. It should be noted heavy precipitation, primarily rainfall episodes, could result in the significant reduction of effluent impoundment holding times.

2. If necessary, an earthen dam is to be constructed as near the facility as practical as soon as human resources and equipment are available. The purpose of this action is to minimize the spread of contamination and to provide extra containment runoff.

3. If additional containment capacity is required, available inflatable tanks, railroad tank cars, and tank trailers can provide an additional 120,000 gallons of capacity.

4. Following abatement of the emergency, all impounded runoff will be characterized. Sampling and analysis, if necessary, will be performed in accordance with agency-approved methods such as SW-846, or, in the case of radioactive contamination, in accordance with laboratory analytical methods/standard operating procedures.

5. If the runoff is determined to be hazardous, the runoff will be treated or disposed of in accordance with applicable RCRA regulations.

6. Following removal of the water from the containment areas, a soil sampling program will be initiated to determine if the soil has become contaminated.

G-4G Incompatible Wastes [OAC 3745-54-56(H)(1)]

Determinations of chemical characteristics and incompatibilities by the Plant Shift Superintendent/Incident Commander can be done with visual inspections, field sampling and by knowledge of the waste origination. The analytical procedures of the waste analysis plan and the waste management and segregation procedures of the storage units and their procedures to prevent hazards are also applicable to ensuring that there will be no incompatibility problems.

G-4H Post Emergency Equipment Maintenance [OAC 3745-54-56(H)(2) and (I)]

Following its use in an emergency or routine maintenance situation, all equipment is cleaned/decontaminated of hazardous substance and toxic chemical or residual excavated materials prior to being placed into storage for reuse as necessary. The purpose of the cleaning is twofold: 1) to maintain the equipment in usable condition; and 2) to prevent the spread of and/or unnecessary exposure to hazardous and/or radioactive materials.

Expendable supplies such as disposable personal protective equipment are inventoried and replaced as required as part of the decontamination activities. These decontamination activities are performed after the generated residues are containerized and sampled (as necessary) to ensure only compatible materials are stored together. The completion of the site cleanup is to include the maintenance of equipment and the replenishment of supplies, which will then be reported to the Administrator of Environmental Protection Agency (EPA) Region V, the Director of Ohio EPA and any other applicable state or local agency prior to the resumption of normal operations.

G-4I Container Spills and Leakage [OAC 3745-54-52(A)(E), 3745-55-71]

Spill control equipment shall be located and available in the hazardous waste storage units at all times. Waste Management operating procedures provide detailed steps for handling and replacing leaking containers.

The general procedure that is followed is:

1. The spill or leak is contained using an inert absorbent if it can be safely done by personnel detecting the spill or leak. Once the spill or leak is safely contained, clean-up activities shall begin immediately.

2. Chemical Operations personnel, Environmental Compliance personnel, the Plant Shift Superintendent/ Incident Commander, and, if necessary, emergency response personnel are notified to provide safe clean-up guidelines and equipment.

3. The contents of the drum will be transferred to a container as specified in Table D-1 or the drum and contents will be placed in an overpack drum as stated in the procedure.

Environmental Compliance will evaluate the occurrence against current regulations and determine the reporting requirements and, if necessary, draft appropriate notifications.

After the emergency has been abated, the transfer of additional hazardous wastes into the storage area will be discontinued until the area is properly cleaned. There is sufficient space in other onsite storage areas to accommodate this material for several weeks.

G-4J Tank Spills and Leakage [OAC 3745-55-93]

PORTS is not seeking a permit for any tanks; therefore, this section does not apply.

G-4K Surface Impoundment Spills and Leakage [OAC 3745-56-27]

PORTS is not seeking a permit for any surface impoundments; therefore, this section does not apply.

G-5 Emergency Equipment [OAC 3745-54-52(E)]

Fire Extinguishing Equipment

The closest fire department is operated by USEC. This fire department maintains a full time dedicated fire department, which includes three pumpers: 1 - with a 1250 gallons per minute (gpm) pump and 500 gallon booster tank; 1 - with a 1250 gpm pump and a 500 gallon booster tank and 1 - with a 1000 gpm pump and a 500 gallon booster tank; 1 - mini-pumper with 300 gpm pump and a 300 gallon booster tank, and a 4-wheel drive heavy rescue vehicle, and two ambulances. The department has a truck; for carrying all types of miscellaneous emergency equipment. In addition, the department operates several pickup trucks. Each vehicle and its complement of equipment is checked at the start of each shift and a complete inventory is taken each week. This equipment and staff are housed in a modern, eight bay, brick building known as the X-1007 Fire Station. Included in the fire station is a modern, computerized alarm room.

There are two separate fire water distribution systems at PORTS. The high pressure fire water system services all sprinkler systems and the fire hydrants in the newer areas of the plant. It has a four hour fire flow of 16,000 gpm at 125 pounds per square inch (psi). The low pressure system is also known as the sanitary water system and services the fire hydrants in the older area of the plant. It has a four hour fire flow of 5,000 gpm at 75 psi. Fire hydrant spacing on both systems is nominally 300 feet. Both hazardous waste storage units have building sprinkler systems on the high pressure system. The fire hydrants in the area of X-326 are on the low pressure system and the hydrants around X-7725 are on the high pressure system. The PORTS Fire Department is located in Building X-1007, about 1,000 feet from both of the storage units.

Along with the fire protection systems at PORTS, each building has a set of portable fire extinguishers available. Each unit is inspected on a routine basis. NFPA Class A, B, C or combination extinguishers can be found in most areas and are generally located 75 feet apart or approximately one for each 1250 ft^2 of floor space per NFPA standards. These units are to be used for small fires (e.g. waste baskets, paper on desk) only, as general personnel are not trained to fight significant fires.

Emergency and Spill Control Equipment

The container storage units have an extensive array of emergency and spill control equipment available for routine and emergency use. All equipment is maintained on a preventative maintenance schedule as recommended by the manufacturer. The list of equipment is presented as Table G-2.

In addition to the emergency equipment, DOE/Bechtel Jacobs Company LLC has a wide variety of heavy equipment (lifting and earth moving) is available for use, in an emergency, by agreement with USEC.

Personal Protective Equipment

PORTS maintains a wide variety of personal protective equipment including respiratory protection; protective clothing, including chemical-resistant encapsulating suits; and self-contained breathing apparatus. The types of respiratory protection available include organic vapor half-face, full-face and, fresh air respirators; and the aforementioned self-contained breathing apparatus. Protective clothing includes cloth coveralls, aprons, shoes, boots, various types of gloves and headgear. The chemical-resistant encapsulating suits are maintained by the USEC Fire Department Personnel who receive special training in the use, testing and inspection of such equipment.

Emergency response personal protective equipment consisting of both Level A and Level B Equipment is assigned to and is either carried on fire vehicles or is stored in the X-1007 Fire Station.

Level A Equipment consisting of positive-pressure self-contained breathing apparatus, full-encapsulating chemical resistant suits with built-in gloves, steel shank boots, a hard hat and extra gloves are carried on the fire department emergency truck. Extra positive-pressure self-contained breathing apparatus and extra air bottles are also stored on this vehicle.

Level B Equipment is worn by all responding firemen and consists of complete fire turnout gear and self-contained breathing apparatus. Additional positive-pressure self-contained breathing apparatus is available on all fire apparatus except the two ambulances. These responders normally wear white cotton gloves under their regular work gloves, and have available to them plastic booties to wear over their boots, if such protection is needed.

Tyvec coveralls, cotton gloves, skull caps, respiratory protection, plastic booties, and extra air bottles are also carried on the emergency truck. An additional supply of these items are stored in supply cabinets in the X-1007 Fire Station.

Once the situation has been stabilized by the immediate response of the fire department and the potential hazards of fire and explosion have been reduced to an acceptable level, cleanup is completed by the USEC Chemical Operations Department with the Fire Department on standby. The personal protective equipment of the chemical operators is normally Level D and occasionally Level C. The level of protection is determined by the Industrial Hygienist after determining the nature of the material spilled, taking and evaluating instrument readings for that material, and consulting with the Plant Shift Superintendent/Incident Commander, fire captain and safety personnel so that all potential hazards are considered.

Internal Communications and Alarm Systems

PORTS emergency communications and alarms are established in a variety of methods. The most familiar and easily usable is the telephone. The dialing of the emergency number (911) on any plant telephone will automatically connect the caller with the USEC Fire Department. The caller will be requested to describe the nature of the emergency and location and be told to remain, if possible, at the scene until emergency personnel arrive.

Another familiar alarm device is the fire alarm boxes located in virtually every building on plantsite. When tripped, the alarms will sound in the fire department. Personnel sounding the alarm should remain as close to the alarm box as is safely possible in order to guide emergency response personnel to the occurrence scene.

Other alarms include bells, whistles, and horns which sound in a variety of ways depending on the nature and extent of the emergency. For example, in the event of an emergency, a personnel accountability alarm may be sounded (seven rings on a bell, repeated three times) and/or, if an evacuation is necessary, a horn will sound with a continuous blast.

Emergency communications may also be accomplished by means of hand held two-way radios. A dedicated emergency frequency is assigned, and an alternate frequency may be utilized, if necessary. All personnel who may have use of a two-way radio are instructed as to its proper use.

External

The telephone is the primary means of external communication. Both hazardous waste storage units have telephones. The Plant Shift Superintendent, Fire Department and Police Department have radio capability to monitor and communicate directly with the area emergency responders. PORTS also has facsimile and electronic information transfer capability to communicate with those who have compatible equipment.

First Aid and Medical Equipment

PORTS has a doctor and nurses who can administer the full range of first aid and stabilization techniques to injured or ill personnel. The PORTS Hospital has an emergency room, examination suites and 3 holding beds. It is staffed on day-shift Monday through Friday excluding holidays with a physician on day-shift. The Fire Department maintains two fully equipped ambulances and most fire department personnel are certified Emergency Medical Technicians or Paramedics. These services are available through an agreement with USEC.

Decontamination Equipment

Emergency decontamination equipment for injured personnel and responder decontamination is carried on the plant emergency truck, ambulances, and fire apparatus. Additional equipment and neutralizing solutions are stored in the X-1007 Fire Station or the X-101 Hospital. This equipment generally consists of responder protective equipment, decontamination solutions, solution containment devices, and contaminated clothing storage bags.

Gross decontamination of responders is generally accomplished by using safety showers or sanitary showers in affected buildings, with decontamination solutions being stored in proper containers awaiting characterization or by decontamination with portable hoses and/or sprayers. Decontamination solutions can be collected in portable pools for proper characterization, treatment and disposal.

Heavy equipment may be decontaminated by use of water hoses, portable high pressure water or steam cleaners. Prior to this step, all gross contamination is brushed off of the affected surfaces, to limit the concentration in the decontamination solutions. Solutions and solids potentially contaminated with hazardous constituents are collected, sampled and properly disposed of following analytical data review.

G-6 Coordination Agreements [OAC 3745-54-37, 3745-54-52(C)]

An agreement with USEC provides the services of an onsite hospital, fire department, and police department. As the primary provider of emergency services to DOE/Bechtel Jacobs PORTS, USEC obtains and is responsible for updating mutual aid agreements with several surrounding communities for joint support for emergencies at PORTS or within the communities. Copies of the mutual aid agreements and other letters of understanding with the following agencies are attached.

Mutual Aid Agreement

PIKETON-SEAL TOWNSHIP VOLUNTEER FIRE DEPARTMENT
BEAVER FIRE DEPARTMENT
BENTON TOWNSHIP VOLUNTEER FIRE DEPARTMENT
PEBBLE TOWNSHIP VOLUNTEER FIRE DEPARTMENT
CAMP CREEK VOLUNTEER FIRE DEPARTMENT
STOCKDALE FIRE DEPARTMENT
ELM GROVE FIRE DEPARTMENT
WAVERLY FIRE DEPARTMENT
JACKSON TOWNSHIP FIRE DEPARTMENT
SCIOTO TOWNSHIP VOLUNTEER FIRE DEPARTMENT
USEC FIRE DEPARTMENT
PIKE COUNTY FIRE FIREFIGHTERS ASSOCIATION (FIRE DEPARTMENTS LISTED ARE PART OF THIS ASSOCIATION)
BRUSH CREEK TOWNSHIP VOLUNTEER FIRE DEPARTMENT

SUBMISSION DATE: July 13, 2001

PIKE COUNTY SHERIFF'S DEPARTMENT

Hospitals (LOA)

PIKE COUNTY EMERGENCY MEDICAL SERVICE, WAVERLY, OHIO
PIKE COMMUNITY HOSPITAL, WAVERLY, OHIO
SOUTHERN OHIO MEDICAL CENTER, PORTSMOUTH, OHIO
ADENA REGIONAL MEDICAL CENTER, CHILLICOTHE, OHIO

Schools (LOA)

PIKE COUNTY SCHOOLS
VALLEY LOCAL SCHOOLS
WAVERLY CITY SCHOOLS, WAVERLY, OHIO

The remoteness of the plant from local communities would delay their emergency personnel's response time to PORTS in the event of an emergency. Therefore, USEC will be the primary emergency authority.

The Site Emergency Plan for an emergency at PORTS includes participation of county emergency forces. The plan also provides site orientation tours and classroom training biennially. The PORTS initial responders are intimately familiar with the facility and will have assessed the hazards and support needs prior to the arrival of offsite aid. For these reasons, PORTS will have the lead on any onsite emergency response and all of the offsite aid will be supportive in nature. PORTS will direct the offsite support units so that all parties will understand their responsibilities.

In order to provide additional medical support for employees, contractors and visitors, USEC maintains Letters of Agreement (LOA) with three area hospitals. These letters indicate that the hospitals will accept PORTS patients for treatment. Additional emergency medical services are provided by a LOA with the county emergency medical service.

PORTS has designated and equipped a Joint Public Information Center (JPIC) to provide a single facility from which multi-organizational emergency public information can be coordinated and disseminated during emergencies at the plant which involve, or could involve, offsite emergency actions to protect the public.

The facility for the Joint Public Information Center is the Word Alive Fellowship facilities. Agreements are in place to support this effort. These agreements, Letters of Understanding, and copies of fire mutual aid agreements are provided in Attachment 1.

Due to the security required, special circumstances of the operations at this facility, and the possible nuclear contamination involved with any emergency at PORTS, it is assumed that outside contractors and Ohio EPA Response Teams will not be required to respond to emergencies occurring here. No agreements have been solicited from either contractors or Ohio EPA for this reason. Should Ohio EPA choose to attend drills or training sessions with local mutual aid organizations, arrangements can be made for their inclusion.

G-7 Evacuation Plan [OAC 3745-54-52(F)]

The Emergency Evacuation Organization for each building onsite will consist of a Local Emergency Director (LED) and as many assistant local emergency directors and/or Building Wardens as may be deemed necessary. Normally, the local emergency director will be the supervisor in charge of the area requiring evacuation. The number of personnel in the evacuation organization may be varied at the direction of the local emergency director or Plant Shift Superintendent/Incident Commander according to the following:

a. Size of building;

b. Number of employees and presence of physically-impaired employees;

c. Type and location of exit doors;

d. Emergencies requiring evacuation shall include, as a minimum:

1. Explosions, fires, spills or releases of a volume of hazardous waste or hazardous waste constituent, mixed waste or mixed waste constituent sufficient to threaten human health in the vicinity

2. Releases causing concentrations in the air to exceed the Threshold Limit Value (TLV) concentration

3. Releases for which a rapid determination of contaminant concentrations cannot be made.

Evacuation Criteria

The authority for determining the necessity and scope of an evacuation is vested in the local emergency director who is on the scene. The Plant Shift Superintendent/Incident Commander may expand the scope of the evacuation. There are a number of specific events that require evacuation such as fires, release of process or toxic gas, explosions, pressure ruptures, and large spills. In any real or potential emergency the local emergency directors and the Plant Shift Superintendent/Incident Commander are to take the necessary actions to protect human life and provide for their safety and health.

Evacuation Alarm Signaling Systems

The signal for employees to evacuate any building on plantsite will be the continuous sounding of the emergency evacuation horns.

In case of emergencies requiring the evacuation of more than a single building such as a fire zone or the need for a complete plantwide evacuation, additional instructions will be issued over the plant public address system and other available means of communication.

Personnel who are in areas other than their own should follow the personnel who are assigned in that area. Personnel who are conducting meetings, in training classes, or who are acting as escorts for uncleared or cleared visitors shall be responsible for seeing to it that all these personnel evacuate the affected building/buildings per established evacuation procedures.

The Subcontract Technical Representative shall ensure that all contractor personnel are advised of evacuation procedures applicable to the areas in which they are to be working.

In order to prevent congestion near the exit doors and to provide clear passage for responding plant emergency service groups, personnel leaving the building will proceed promptly to pre-assigned assembly area(s) or to an assembly area that may be designated over the plant public address system.

Evacuation Routes

Each building has established evacuation procedures specific to that building. Upon hearing the continuous blast of a horn or ringing of a bell, all personnel are to promptly evacuate the building following designated routes. The evacuation routes are conspicuously posted on walls and doorways with evacuation direction(s) indicated by arrows. In those buildings where designated evacuation routes cannot be feasibly marked (e.g. Process Buildings), personnel are to evacuate via the nearest available exits.

The evacuation routes to assembly areas are dependent on wind direction and the location of an incident. Personnel are trained to note the wind direction and then to proceed to an upwind assembly area. See Figures G-5 and G-6.

X-326 Storage Unit

Exit Points - Scioto Avenue - Roto Gates

Evacuation Routes:

Primary

Persons evacuating through these emergency egress roto gates will proceed north on Scioto Avenue, turn left and proceed west on 17th Street and assemble at the X-109A, Monitoring Station #6.

Alternate

Persons evacuating through these emergency egress roto gates will proceed south on Scioto Avenue, turn right and proceed west on 2nd Street, turn left and proceed south on Falcon Avenue and assemble at the X-1007 Fire Station, Monitoring Station #7.

<u>Exit Points</u> - 15th Street - Roto Gates and X-111B Portal

Evacuation Routes:

Primary

Persons evacuating through these emergency egress roto gates will proceed west on 15th Street, turn right and proceed north on Scioto Avenue, turn left and proceed west on 17th Street and assemble at the X-109A, Monitoring Station #6.

Alternate

Persons evacuating through these emergency egress roto gates will proceed east on 15th Street, turn right and proceed south on Pike Avenue, turn left and proceed east on 11th Street and assemble at the X-106, Monitoring Station #2.

<u>Exit Points</u> - 5th Street- Roto Gates

Evacuation Routes:

Primary

Persons evacuating through these emergency egress roto gates will proceed east on 5th Street, turn left and proceed north on Pike Avenue, turn right and proceed east on 6th Street, turn left and proceed north on Mahoning Avenue, turn right and proceed east on 7th Street and assemble at the X-109C, Monitoring Station #1.

Alternate

Persons evacuating through these gates will proceed west on 5th Street, turn left and proceed south on Scioto Avenue, turn right and proceed west on 2nd Street, turn left and proceed south on Falcon Avenue and assemble at the X-1007 Fire Station, Monitoring Station #7.

<u>Exit Points</u> - Pike Avenue - Roto Gates and X-111A Portal

Evacuation Routes:

Primary

Persons evacuating from Emergency Roto Gates and X-111A Portal will proceed south on Pike Avenue; persons evacuating Emergency Roto Gates Pedestrian Gate-15 and Pedestrian Gate-13 will proceed north. They will then proceed east on 9th Street, turn right and proceed south on Mahoning Avenue, turn left and proceed east on 7th Street and assemble at X-109C, Monitoring Station #1.

Alternate

Persons evacuating from these Emergency Egress Roto Gates will proceed south on Pike Avenue, turn right and proceed east on 11th Street and assemble at the X-106, Monitoring Station #2.

Exit Points - Pike Avenue - Roto Gate

Evacuation Routes:

Primary

Persons evacuating from Emergency Egress Roto Gate Pedestrian Gate-7 will proceed north on Pike Avenue, persons evacuating from Emergency Egress Roto Gates will proceed south on Pike Avenue. They will then proceed east on 11th Street and assemble at the X-106, Monitoring Station #2.

Alternate

Persons evacuating from these Emergency Egress Roto Gates will proceed south on Pike Avenue, turn left and proceed east on 10th Street, turn right and proceed south on Mahoning Avenue, turn left and proceed east on 7th Street and assemble at the X-109C, Monitoring Station #1.

X-7725 Container Storage Unit
Exit Point - Plover Avenue

Evacuation Routes:

Primary

Persons evacuating through the west portion of X-7725 will proceed north on Plover Avenue and assemble at the X-1107 EV Portal (egress designated "W1" Figure G-6).

Alternate

Persons evacuating through the west portion of X-7725 will proceed south on Plover Avenue and assemble as far south on Plover Avenue as the security fence allows (Egress designated "W2" Figure G-6).

Exit Point - Stockton Street

Evacuation Routes:

Primary

Persons evacuating through the north portion of X-7725 will proceed north to Stockton Street, turn left and proceed west on Stockton Street and assemble at the X-1107 EV Portal (egress designated "N1" Figure G-6).

Alternate

Persons evacuating through the north portion of X-7725 will proceed north to Stockton Street, turn right and proceed east on Stockton Street, turn right and proceed south on Hawk Avenue, turn left and proceed east on Rush Street and assemble as far east on Rush Street as the security fence allows (egress designated "N2" Figure G-6).

Exit Point - Hawk Avenue

Evacuation Routes:

Primary

Persons evacuating through the east portion of X-7725 will proceed north on Hawk Avenue, turn left and proceed west on Stockton Street and assemble at the X-1107 EV Portal (egress designated "E1" Figure G-6).

Alternate

Persons evacuating through the east portion of X-7725 will proceed south on Hawk Avenue, turn left and proceed east on Rush Street and assemble as far east on rush street as the security fence allows (egress designated "E2" Figure G-6).

Exit Point - Rush Street

Evacuation Routes:

Primary

Persons evacuating through the south portion of X-7725 will proceed east on Rush Street, turn left and proceed north on Hawk Avenue, turn left and proceed west on Stockton Street and assemble at the X-1107 EV Portal (egress designated "S1" Figure G-6).

Alternate

Persons evacuating through the south portion of X-7725 will proceed east on Rush Street and assemble as far east as the security fence allows (egress designated "S2" Figure G-6).

G-8 Required Reports [OAC 3745-54-56(J)]

Within 15 days of the incident, PORTS will provide a written report on the occurrence to the Region V Administrator and the Director of Ohio Environmental Protection Agency through DOE. Copies will be included in the operating record. The report will include at a minimum:

1. Name, address, and telephone number of the owner or operator
2. Name, address, and telephone number of the facility;
3. Date, time, and type of incident (e.g., fire, explosion);
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of the actual or potential hazards to human health or the environment, where applicable;
7. Estimated quantity and disposition of recovered material that resulted from the occurrence.
8. Any other information as the director may require.

SUBMISSION DATE: April 30, 2002

Table G-1
Portsmouth Gaseous Diffusion Plant Emergency Coordinators
(Plant Shift Superintendents)

NAME	ADDRESS	HOME TELEPHONE NUMBER	PAGER TELEPHONE NUMBER
PRIMARY CONTACT[1]			
Lewis C. Goidell	Non-responsive [redacted]	Non-responsive [redacted]	Non-responsive [redacted]
PLANT SHIFT SUPERINTENDENTS (PSS)			
Keith Vanderpool	Non-responsive [redacted]	Non-responsive [redacted]	Non-responsive [redacted]
Rick Larson			
Keith Williamson			
Ron P. Crabtree			
Gary Salyers			
Kurt Sisler			
Steven W. May			

[1]After the Primary Contact, the Plant Shift Superintendent on duty at the time of an incident will be the Emergency Coordinator.

SUBMISSION DATE: July 13, 2001

Table G-2 Site Emergency Equipment

EQUIPMENT DESCRIPTION	AMOUNT	LOCATION	PURPOSE
SPRINKLER SYSTEMS	≈80	X-326	CAPABLE OF CONTROLLING FIRES BY WATER FLOW
FIRE EXTINGUISHERS	≈350	X-326	FOR USE IN EXTINGUISHING CLASS A, B, OR C FIRES
BUILDING HORNS	>10	X-326	FOR ACTIVATING THE EMERGENCY RESPONSE ORGANIZATION, ALERTING EMPLOYEES TO RESPOND ACCORDING TO THE NATURE OF THE EMERGENCY
PLANT RADIO FREQUENCIES	5	X-326	ALLOWS TWO WAY COMMUNICATIONS BETWEEN EMPLOYEES, EMERGENCY RESPONSE ORGANIZATIONS, ETC.
COMMERCIAL TELEPHONES	>6	X-326	CAPABLE OF NOTIFYING ON-SITE EMPLOYEES AND OFF-SITE AGENCIES
TOWELS, MOPS, BUCKETS, ETC.	1	X-326	SPILL CLEAN-UP
DRUM PUMP	1	X-326	LIQUID WASTE TRANSFER
LARGE SPILL CABINET	1	X-326	FOR SPILL CONTROL MATERIALS (ABSORBENT, PPE, ETC.)
PH METER	1	X-7725	USED TO IDENTIFY PH OF MATERIAL
LARGE SPILL CART	4	X-7725	FOR MOVING SPILL CONTROL MATERIALS (ABSORBENT, PPE, ETC.)
SPRINKLER SYSTEMS	21	X-7725	CAPABLE OF CONTROLLING FIRES BY WATER FLOW
FIRE EXTINGUISHERS	≈200	X-7725	FOR USE IN EXTINGUISHING CLASS A, B, OR C FIRES
PUBLIC ADDRESS SYSTEM	1	X-7725	FOR ACTIVATING THE EMERGENCY RESPONSE ORGANIZATION, ALERTING EMPLOYEES TO RESPOND ACCORDING TO THE NATURE OF THE EMERGENCY
PLANT RADIO FREQUENCIES	5	X-7725	ALLOWS TWO-WAY COMMUNICATIONS BETWEEN EMPLOYEES, EMERGENCY RESPONSE ORGANIZATION, ETC.
COMMERCIAL TELEPHONES	>10	X-7725	CAPABLE OF NOTIFYING ON-SITE EMPLOYEES AND OFF-SITE AGENCIES
DRUM PUMPS	2	X-7725	LIQUID WASTE TRANSFER
SHOVELS, MOPS, BUCKETS, ETC.	1	X-7725	SPILL CLEAN-UP

SUBMISSION DATE: July 13, 2001

PORTSMOUTH GASEOUS DIFFUSION PLANT EMERGENCY PLAN MAP

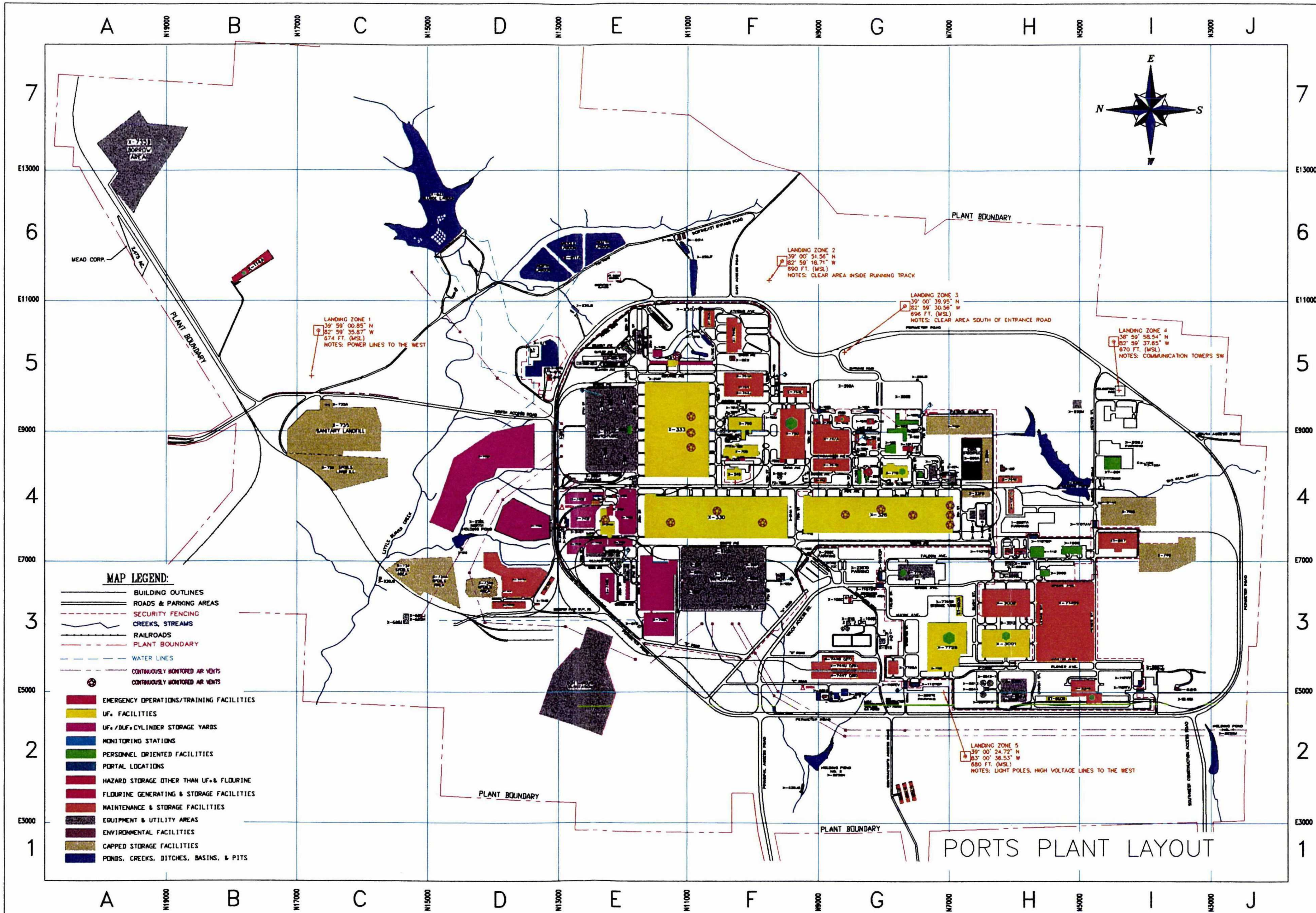

Figure G-1. PORTS Emergency Response Facilities

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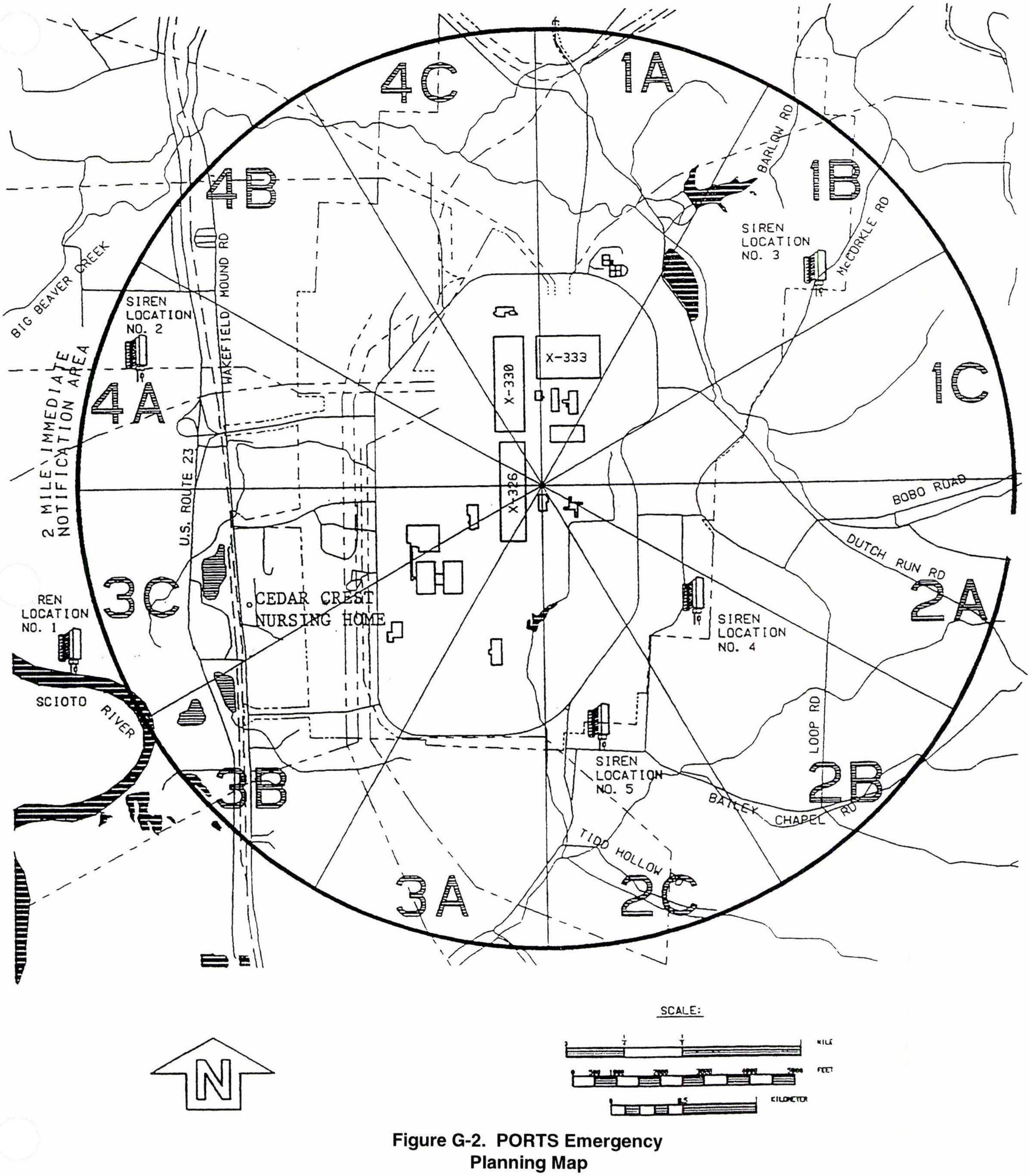

Figure G-2. PORTS Emergency Planning Map

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A-3138 Front (04/10/01) **EMERGENCY NOTIFICATION FORM**

"This is the Portsmouth Gaseous Diffusion Plant, located in Piketon, Ohio, with": *(check one)* ☐ **an EMERGENCY notification**
(Repeat Line) ☐ **a DRILL notification**

*1. This is Emergency Notification Number:______ Date: __________ Time: ________

*2. Portsmouth Plant Communicator Name:___________________________ Phone Number: 740-897-3025 or 740-897-4019
(PRINT) *(circle one)*

*3. Emergency Classification: *(check one)*
a. ☐ ALERT
b. ☐ SITE AREA EMERGENCY
c. ☐ Terminated
d. ☐ Other: ________________
Time Emergency Class. Declared/ Changed / Terminated: ________ *(circle one)*

*4. Event Description: ____
____
____
____

*5. Emergency Condition: *(check one)* a. ☐ Improving b. ☐ Stable c. ☐ Degrading d. ☐ Undetermined

*6. Plant Status: *(check one)* a. ☐ Operating b. ☐ Shutdown c. ☐ Being Shutdown

*7. <u>OFF-SITE</u> Protective Actions Recommended: *(check one)*
a. ☐ No protective actions recommended at this time.
b. ☐ Off-site sheltering recommended within 2-mile Immediate Notification Area.
c. ☐ Other: ____
____

*8. Public Warning Siren Activation: *(check one)*
a. ☐ Have **not** been recommended.
b. ☐ Have been recommended (required for all Site Area Emergencies)
Time Sirens Activated: ________________

*9. EAS Message played: *(check one)*
a. ☐ Message #1, No Actions Required
b. ☐ Message #2, Sheltering Required
c. ☐ Message #3, Evacuation
d. ☐ Message #4, All Clear
e. ☐ Message #5, Exercise/Drill
f. ☐ Message #6, Unintentional Siren
g. ☐ Message #7, Other:_______________
Time Pike County Sheriff notified: __________

*10. Release Information: *(check one)*
a. ☐ No release has occurred, and **NO** potential for release exists
b. ☐ No release has occurred, however **potential** for release exists
c. ☐ Release is occurring: (circle one) Onsite only / Off-site
d. ☐ Release occurred, but has stopped
Time release started / stopped: _______________

*11. Material Released: ____

12. Type of Release: *(check one)* a. ☐ Surface b. ☐ Water c. ☐ Air d. ☐ Other ______________________
13. Estimate of Release Quantity: ______________________ Time/Duration of Release:______________________
14. Meteorological Conditions at PORTS: Wind is from the _____ (N,SW,ESE, etc.) at _____ mph. Stability Class is ______
*15. Emergency Notification Information Approved by: ______________________ Date: ___________ Time: ______
***Items must be completed** *(circle one)* CM/ PSS

Figure G-3. Emergency Notification & Release Form

A-3138 Back (04/10/01) **EMERGENCY NOTIFICATION FORM**

Check Agency Notified:

Agency	Time	Person Contacted
1. ☐ Pike County Sheriff's Office: (740-947-2111)	______	PCSO: ______
2. ☐ Ohio Emergency Management Agency State EOC (614-889-7150)	______	OEMA: ______
3. ☐ DOE Oak Ridge Operations EOC, after state and local notifications: (423-576-1005)	______	DOEOR: ______
4. ☐ NRC Operations Center, immediately after state and local notifications, But no later than 1-hour after emergency classification. (301-816-5100 or 301-951-0550 or 301-415-0550)	______	NRC: ______

5. ☐ USEC Headquarters courtesy notification: Begin with first listed name on USEC Notification List. Continue down listing until notification is made.

Person Contacted: ____________________ Time: ________

Name	Office Phone	Home Phone	Pager [redacted]	Cellular Phone
Morris Brown	(740) 897-2106	[redacted]	[redacted]	[redacted]
Lindsey Krause	(301) 564-3482	[redacted]	[redacted]	[redacted]
Wray Jordan	(301) 214-7932	[redacted]	[redacted]	[redacted]
Beth Darrough	(301) 564-3422	[redacted]	[redacted]	[redacted]
Roger Gagne	(301) 564-3420	[redacted]	[redacted]	[redacted]

After courtesy notification is made, subsequent calls should be made to the USEC COC at (301) 564-3442.
USEC COC Fax Number is (301) 564-3209.
NOTIFY THE FOLLOWING AGENCIES AS REQUIRED

AGENCY	TELEPHONE	Contacted by FAX	Person Contacted	Time
If a hazardous or toxic release at PORTS has, or may affect Scioto County, notify:				
Scioto County LEPC and Scioto County EMA	(740) 354-7566 Fax (740) 355-8237	Yes: _____ No: _____		
If a release is in progress and has a direct impact on the environment outside the reservation boundary, notify:				
Ohio EPA	(800) 282-9378 Fax (614) 644-3250	Yes: _____ No: _____		
If a release of a chemical or toxic substance in excess of the reportable quantities established under CERCLA section 102.				
National Response Center	(800) 424-8802 Fax (202) 267-2165	Yes: _____ No: _____		
If the event results in a fatality or hospitalization to three (3) or more individuals onsite, notify:				
OSHA	(800) 321-6742 Fax (513) 841-4114	Yes: _____ No: _____		

NOTE:ALWAYS VERIFY AGENCY FAX NUMBER WITH CONTACT BEFORE TRANSMITTING INFORMATION.
COMMENTS:

Figure G-3 (cont.)

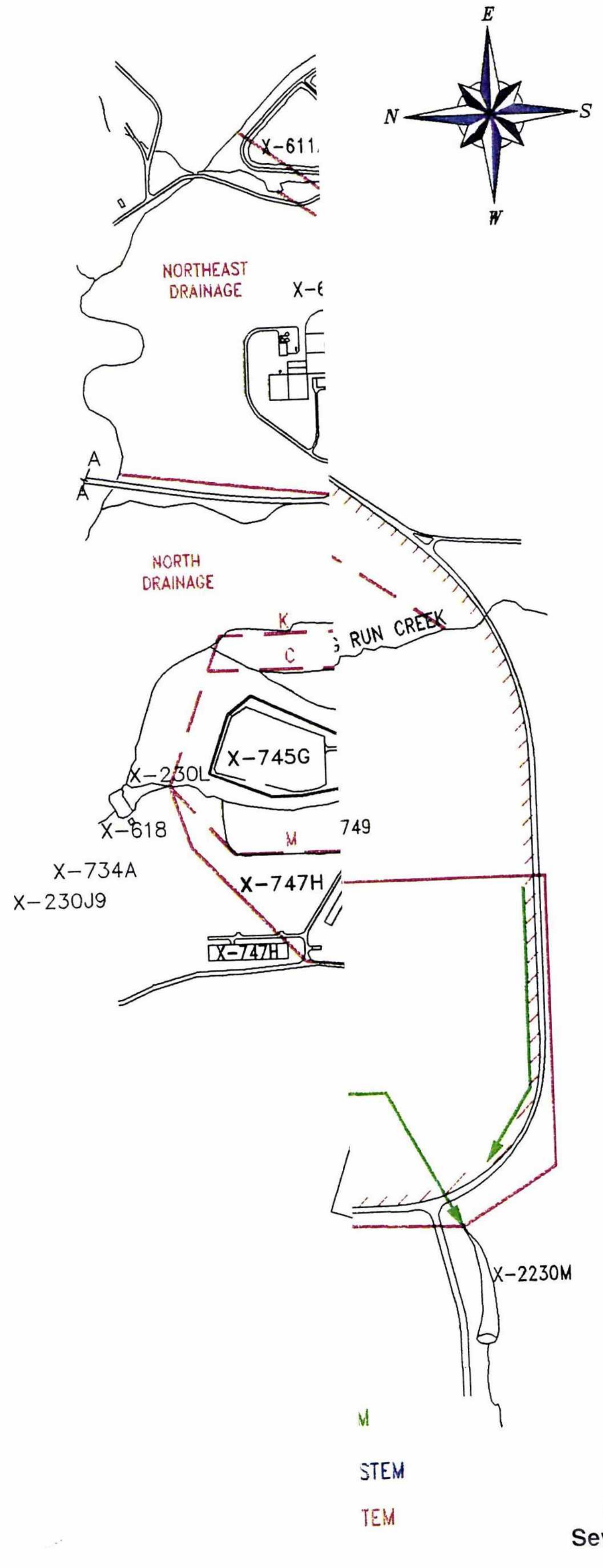

Figure G-4. Storm Drain, Sanitary Sewer, and Surface Drain Systems Map

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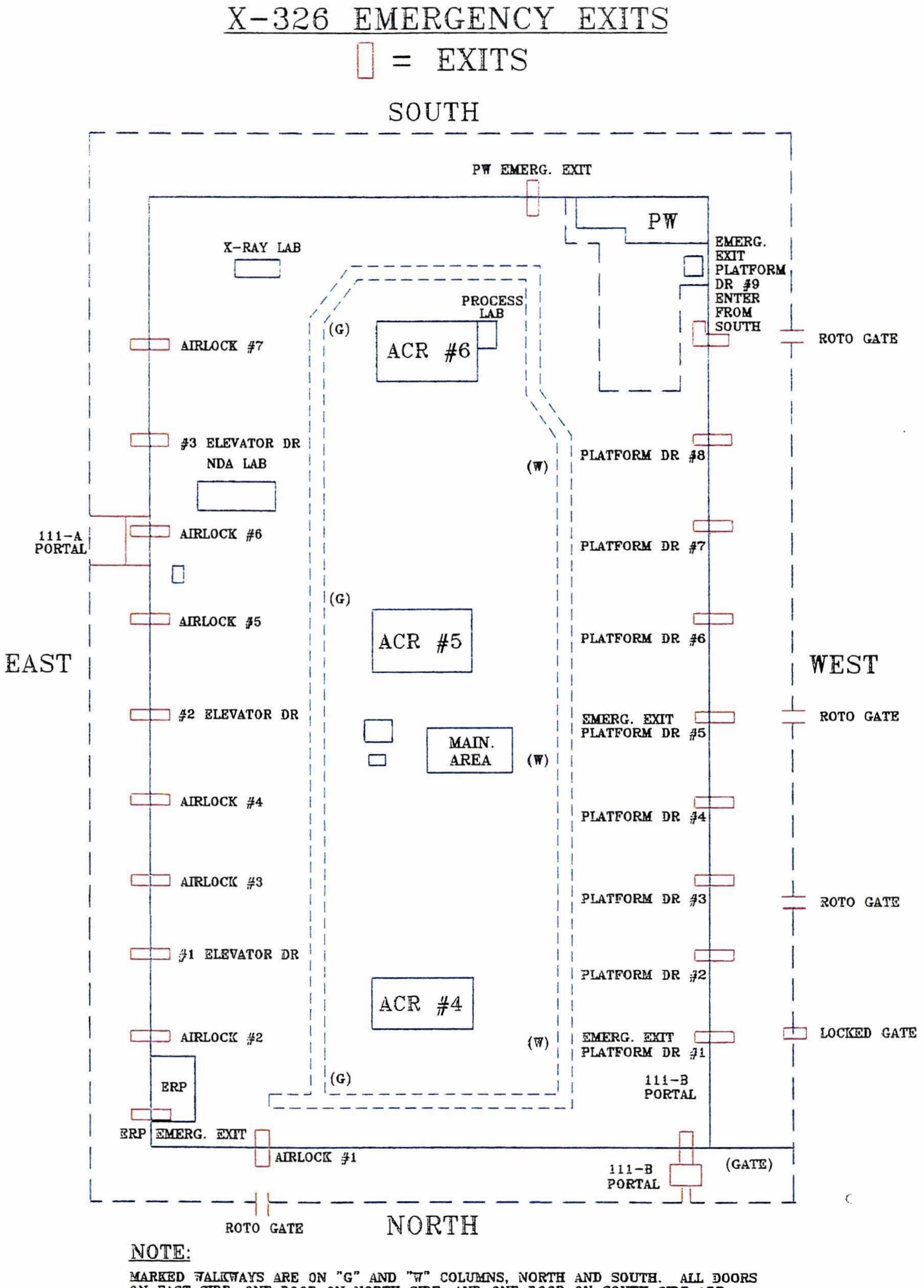

NOTE:

MARKED WALKWAYS ARE ON "G" AND "W" COLUMNS, NORTH AND SOUTH. ALL DOORS ON EAST SIDE, ONE DOOR ON NORTH SIDE, AND ONE DOOR ON SOUTH SIDE ARE EMERGENCY EXITS. DOORS #1, #5, AND #9 ON WEST SIDE ARE EMERGENCY EXITS, WHILE THE OTHER DOORS COULD BE USED IN EXTREME EMERGENCIES, THEY ARE NOT APPROVED EXIT DOORS. 111-B PORTAL IS NOT AN EMERGENCY EXIT, USED FOR SHIFT CHANGE ONLY.

Figure G-5. X-326 Building Exits

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X-7725 EVACUATION ROUTES AND ASSEMBLY AREAS

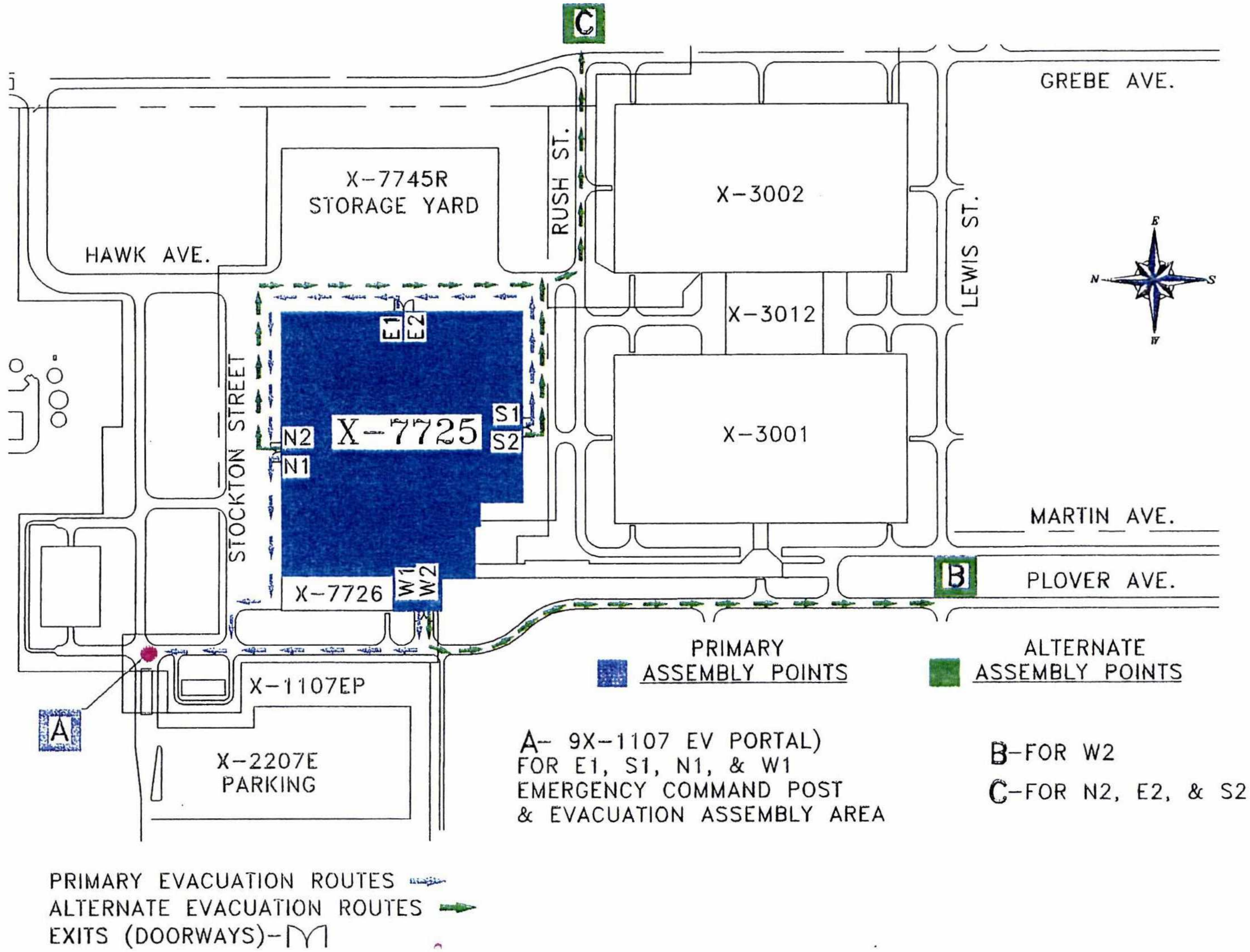

Figure G-6. X-7725 Evacuation Assembly Areas

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Attachment 1

Emergency Agreements/Arrangements

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USEC
A Global Energy Company

COPY

MEMO OF UNDERSTANDING BETWEEN UNITED STATES ENRICHMENT CORPORATION (USEC) AND THE PIKE COUNTY SHERIFF'S DEPARTMENT

The United States Enrichment Corporation (USEC) and/or any successor or contracting organization and the Pike County Sheriff's Department each recognize the benefit of providing mutual assistance and cooperation.

USEC is committed to loan special equipment, such as riot control gear, metal detectors, night vision devices, and similar items requested by the Sheriff. Additionally, USEC makes available a variety of training aids (films, slides, audio/visual equipment, and miscellaneous equipment) and the use of the out door firing range for the Sheriff's training needs. USEC is committed to provide available resources, information, and any assistance to the Pike County Sheriff on an as-needed basis.

Similarly, the Sheriff recognizes that periodically the USEC Security Group and the facilities/property under their protection may require official law enforcement assistance from the Pike County Sheriff's Department. This is provided by means of manpower deployment during demonstrations or other crisis situations occurring at or near facilities operated and protected by USEC Security. Presently, during "O" shift hours Monday through Friday, the Sheriff can commit three officers initially with an additional ten deputies summoned and dispatched within fifteen minutes. On non Office shift hours, weekends, and holidays, two officers can be dispatched immediately with ten additional personnel contacted within fifteen minutes. These officers will arrive with the necessary equipment (weapons, radios, etc.) and will be in uniform. It is recognized that personnel from the Sheriff's Department would serve as arresting officers when needed.

If a security situation were determined to be critical at the PORTS Plant, the Sheriff would arrange for additional assistance (manpower and/or equipment) through the Buckeye State Sheriff's Association (BSSA). This organization could dispatch officers from surrounding counties to a central assembly point near plantsite. Exact numbers and response times will vary.

Should a situation at the PORTS plant require helicopter or other aircraft support, the Sheriff would make arrangements in one of three ways: (1) The Ross County Sheriff would be contacted to arrange for deployment of a Department of National Resources helicopter based in Ross County. It is felt the earliest response time would be 45 minutes from time of notification. (2) The BSSA would be requested to dispatch a helicopter from the nearest available agency. Response times would vary. (3) The Sheriff would request assistance through the Ohio State Highway Patrol General Headquarters. A two-hour minimum response time should be expected.

This memo outlines the cooperative relationship between the Pike County Sheriff's Department and the USEC Security Group and is recognized as an asset to each organization in the performance of its duties.

Pat Musser	2/7/01	Larry Travis	2-9-01
Pat Musser General Manager	Date	Larry Travis Sheriff, Pike County	Date

United States Enrichment Corporation
Portsmouth Gaseous Diffusion Plant
P.O. Box 628, Piketon, OH 45661

Pike County
Emergency Medical Services
2577 Alma Omega Road
Waverly, Ohio 45690
Tele: 740-947-7346 Fax: 740-947-7337

TO: MARTY REDDEN
UNITED STATES ENRICHMENT CORPORATION

FROM: DONALD SIMONTON, COORDINATOR
PIKE COUNTY EMERGENCY MEDICAL SERVICE

DATE: NOVEMBER 8, 1999

SUBJECT: CONTINUED MEDICAL SERVICE

****

THE PIKE COUNTY EMERGENCY MEDICAL SERVICE WILL CONTINUE TO PROVIDE MUTUAL AID SERVICE TO THE UNITED STATES ENRICHMENT CORPORATION, DEPARTMENT OF ENERGY AND THEIR CONTRACTORS AND TENANTS.

IT IS THE GOAL OF PIKE COUNTY E.M.S., TO BE AVAILABLE AND PROVIDE SERVICE TO THE BEST OF ITS ABILITY.

DONALD SIMONTON
COORDINATOR
PIKE COUNTY EMERGENCY MEDICAL SERVICES

LETTER OF UNDERSTANDING

Pike Community Hospital is willing to accept employees from the United States Enrichment Corporation, the Department of Energy, and their contractors and tenants for evaluation and treatment of injuries, radiation exposure, and effects of toxic agents.

Richard E. Sobota

Richard E. Sobota
President & CEO

11-9-99

Date

LETTER OF UNDERSTANDING

Southern Ohio Medical Center is willing to accept employees from the United States Enrichment Corporation, the Department of Energy, and their contractors and tenants for evaluation and treatment of injuries, radiation exposure, and effects of toxic agents.

Randal M. Arnett
President and Chief Executive Officer

11.2.99
Date

LETTER OF UNDERSTANDING

Adena Regional Medical Center is willing to accept employees from the United States Enrichment Corporation, the Department of Energy, and their contractors and tenants for evaluation and treatment of injuries, radiation exposure, and effects of toxic agents.

Peggy Landrum RN BSN

Peggy Landrum
Director of Emergency Services

11/02/99

Date

PIKE COUNTY SCHOOLS
UNITED STATES ENRICHMENT CORPORATION
LETTER OF AGREEMENT FOR RECEPTION CENTERS

This Letter of Agreement, by and between the Superintendent, Pike County School District, and the United States Enrichment Corporation (USEC), Portsmouth Gaseous Diffusion Plant (PORTS) General Manager, is to provide for the use of Eastern High School and Western High School as reception centers for USEC personnel.

More specifically, this Letter of Agreement authorizes occupancy of an area of each school by USEC, DOE, and their contractors and tenants in the event of an evacuation of the PORTS reservation. The area of the school to be utilized by USEC will be determined by school personnel at the time of occurrence. The Crisis Manager, or designated representative, will determine the necessity for utilizing the schools as reception centers and is responsible for ensuring that school personnel are notified of the impending arrival of evacuated personnel from the PORTS reservation.

D. Ronda Frueauff, Superintendent
Pike County School District

Date 11/10/99

J. Morris Brown, General Manager
Portsmouth Gaseous Diffusion Plant

Date 11/12/99

VALLEY LOCAL SCHOOL DISTRICT
UNITED STATES ENRICHMENT CORPORATION
LETTER OF AGREEMENT FOR RECEPTION CENTER

This Letter of Agreement, by and between the Superintendent, Valley Local School District, and the United States Enrichment Corporation (USEC), Portsmouth Gaseous Diffusion Plant (PORTS) General Manager, is to provide for the use of Valley High School as a reception center for USEC personnel.

More specifically, this Letter of Agreement authorizes occupancy of an area of the school by USEC, the Department of Energy, and their contractors and tenants in the event of an evacuation of the PORTS reservation. The area of the school to be utilized by USEC will be determined by school personnel at the time of occurrence. The Crisis Manager, or designated representative, will determine the necessity for utilizing the schools a reception center and is responsible for ensuring that school personnel are notified of the impending arrival of evacuated personnel from the PORTS reservation.

Doug Booth, Superintendent
Valley Local School District

11/5/99
Date

J. Morris Brown, General Manager
Portsmouth Gaseous Diffusion Plant

11/17/99
Date

WAVERLY CITY SCHOOL DISTRICT
UNITED STATES ENRICHMENT CORPORATION
LETTER OF AGREEMENT FOR RECEPTION CENTERS

This Letter of Agreement, by and between the Superintendent, Waverly City School District, and the United States Enrichment Corporation (USEC), Portsmouth Gaseous Diffusion Plant (PORTS) General Manager, is to provide for the use of Waverly High School as reception center for USEC personnel.

More specifically, this Letter of Agreement authorizes occupancy of an area of each school by USEC, Department of Energy, their contractors and tenants in the event of an evacuation of the PORTS reservation. The area of the school to be utilized by USEC will be determined by school personnel at the time of occurrence. The Crisis Manager, or designated representative, will determine the necessity for utilizing the school as reception centers and is responsible for ensuring that school personnel are notified of the impending arrival of evacuated personnel from the PORTS reservation.

Euggle Robertson, Superintendent
Waverly City School District

11-4-99
Date

J Morris Brown
J. Morris Brown, General Manager
Portsmouth Gaseous Diffusion Plant

11/9/99
Date

PURCHASE ORDER

COPY

Purchase Order	Revison	Page
578856	2	1 of 10

The Purchase order number must appear on all invoices, packing slips, cartons and correspondence related to this order

Date of Order:	Buyer:
16-MAY-00	J Lacefield
Revised Date:	Buyer:
16-FEB-01 13:49	J Lacefield

USEC
A Global Energy Company

SHIP TO: Not Applicable

VENDOR:

WORD ALIVE FELLOWSHIP
204 COMMERCIAL BLVD
PIKETON, OH 45661

BILL TO: United States Enrichment Corporation
Attn: Accounts Payable Dept.
P.O. Box 628, MS-6006
Piketon, OH 45661
United States

FAX: 740-289-2654

PH: (740) 289-4030

Vendor No:	Customer Number:	Payment Terms:	F.O.B.	Ship Via:
11147		NET 10	N/A	N/A

Freight Terms:	Seller Contact:	Authorized Signature:
N/A	RICK STRUCKEL (740) 289-4030	

Item	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension
	Revision No. 2: Revisions made based on agreements at 02/16/01 meeting on the Word Alive Fellowship premises [Attendees: R. Struckel, D. Shilling (WAF); M. Redden, C. Bauer, and J. Lacefield (USEC)].					
	**					
	Revision No. 1: Revisions made based on the on-going discussions, additions and deletions since lease was issued for Acceprtance of Contract (05/16/00).					
	**					
	Please refer all questions to the Buyer, Jesse Lacefield, phone number 740-897-3758, fax 740-897-3771, or e-mail at lacefieldjm@ports.usec.com.					
	The Purchase Order is for the lease of premises of real property, located at 204 Commercial Blvd, Piketon, Ohio 45661, as set forth below.					
	The leased premises of the real property are and shall at all times remain the sole property of the Vendor [Word Alive Fellowship (WAF)], and the Corporation (USEC) shall have no right, title, or interest therein except as expressly set forth in any resultant lease.					

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Continued ...

PURCHASE ORDER

Purchase Order	Revison	Page
578856	2	2 of 10

Item	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension
	The terms of the lease and consideration thereof, including reimbursement of required improvements, additions, and/or modifications to the premises and/or real property, are expressly set forth below. Any sales or use taxes applicable to this PO will be paid by the Corporation to the state or commonwealth on a direct payment permit (Ohio Direct Payment #98-002678 or Kentucky #030811). Note: The Purchase Order number must appear on all invoices, bills of lading, packages, and documentation regarding this contract. INDEMNIFICATION, WORKERS' COMPENSATION Indemnification: The Corporation agrees to hold the Vendor harmless for injuries to Corporation personnel while occupyong the Vendor's premises during tje performance of the JPIC operations. Workers' Compensation: The Corporation has been authorized to continue operations under Sections of the Ohio Law covering self-insured risks. The following documentation is attached for reference: 1. The Ohio Bureau of Workers' Compensation, dated March 19, 2000 2. Finding Of Facts, Term from May 1, 2000 to May 1, 2001 3. Certificate Of Employer's Right To Pay Compensation Directly This Purchase Order constitutes the Contract between the Vendor and the Corporation, subject to and including the terms set forth herein.					
1	Cost of one (1) year's lease, beginning February 1, 2001 of the Word Alive Fellowship premises, located at 204 Commercial Blvd, Piketon, Ohio. STATEMENT OF WORK GENERAL PURPOSE OF JPIC The Joint Public Information Center (JPIC) is established as part of the	31-JAN-02	2,500.00	EACH	1.00	2,500.00

G-50

tinued ...

PURCHASE ORDER

Purchase Order	Revison	Page
578856	2	3 of 10

Item	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension

Portsmouth Gaseous Diffusion Plant's Emergency Plan as outlined in the NRC application of Vol. 3 (6.1.7). The JPIC is the designated location for the dissemination of official information about the emergency to the media and to the public.

The JPIC operations are described in designated Emergency Plan Implementing Procedures (EPIPs). The JPIC accommodates the following:
1. Coordination of information with interfacing Federal, State, and Local organizations and spokespersons,
2. Press releases and media briefings, and
3. Work space for the site personnel, interfacing organization personnel, and representatives of the news media.

PREMISES/FACILITY REQUIREMENTS/FURNISHINGS/EQUIPMENT PROVIDED BY VENDOR
The Vendor shall provide the following premises, facility requirements, and furnishings (i.e., tables, chairs) and equipment (i.e., computer with internet access, and photo copiers, including set-up, for the JPIC operations. These furnishings and equipment shall be reviewed quarterly to determine the minimum requirements. [Note: The Corporation shall furnish all copy paper, office and miscellaneous supplies as required]

The following documents (attachments), for reference and clarity, indicate the specific floor plan locations of the premises which are required for the JPIC operation:
1. Upper Level, Outside Stairwell Entry Area (App. C, Pg. 1 of 3)
2. Ground Level, Sanctuary Area (App. C, Pg. 2 of 3) [For facility reference]
3. Ground Level, Gym Area (App. C, Pg. 3 of 3)

Specific Descriptive Locations
(1) Media Briefing Room [Pg. 3 of 3]
Sound system (e.g., public address) [If required, shall be provided by the Corporation]
Electrical outlets
Filming area for TV cameras
Accessible for satellite truck connections
Space available for up to three (3) telephone lines

Continued ...

PURCHASE ORDER

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tem	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension
	(2) Registration Area [Pg. 3 of 3] Table and chairs for three (3) JPIC staff for use in registering news media in close proximity to the Media Briefing Room. (3) Public Information Officer (PIO) Work Room [Pg. 1 of 3] Table and chairs for up to ten (10) people Floor space for visual aids Space available for up to ten (10) telephone lines (4) Media Monitoring [Pg. 1 of 3] Two (2) TV antennas with rotors (one pointed toward Columbus, OH and one pointed toward Huntington, WV) Two (2) TVs with VCRs [To be provided by the Corporation] Computer with internet capability Chairs for up to two (2) people (5) Telephone Banks [Pg. 1 of 3] Space available for up to (10) telephone lines Table and chairs for up to eight (8) people Space for visual aids (6) Administrative Support Area [Pg. 1 of 3] Work tables and chairs for up to seven (7) people Two (2) facsimile machines [To be provided by the Corporation] Two (2) computers with word processing [To be provided by the Corporation] Two (2) photo copiers Tables for equipment noted above. (7) Storage Areas [Pg. 1 of 3] Dedicated storage area, or areas, to store a number of plant visuals which are encased in glass; and, two (2) TVs with VCRs. Electrical outlet(s) Lighting SERVICES PROVIDED BY VENDOR The Vendor shall provide the following services for the JPIC operations.					

tinued ...

PURCHASE ORDER

Item	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension

(1) Utilities, including heating, ventilating and air conditioning, electrical and lighting
(2) Maintenance of the facilities
(3) Maintenance of the premises, including mowing and snow removal
(4) Janitorial, including premises and facilities

INSPECTION OF LEASED PREMISES AND FACILITIES
The following inspections shall be made to assure that the premises and facilities are maintained in a pre-lease (i.e., Contract) condition per the responsible party(ies) per resolution(s) of the party(ies):

(1) On or before the effective date of the lease (i.e., Contract): A detailed inspection of the premises and facilities shall be conducted by the Vendor and the Corporation. A written inspection report (i.e., "initial report"), outlining the results [i.e., "initial condition(s)"] of the inspection, shall be drafted by the Corporation, reviewed, amended (if required), and shall be signed by both parties as accepted.

(2) At the conclusion of the lease: A similar inspection shall be conducted as in Item (1). The findings shall be compared with the initial report. A determination shall be made, to the satisfaction of both parties, as to whether the Corporation has an obligation to restore either the premises and/or the facilities to the same initial condition(s).

JPIC OPERATIONS: AVAILABILITY OF LEASED PREMISES/FACILITIES, AND ACCESS
The JPIC must be a facility where activation can occur within one (1) hour or less of an event (whether declared in a real, drill, or exercise situation) twenty-four hours a day, on every calendar day of the year.

The Corporation shall conduct quarterly JPIC drills. Drills are not expected to be conducted on a Sunday.

Quarterly surveillances (i.e., March, June, September, and December) of the leased premises and facilities shall be made for the purpose of conducting physical inventories of all JPIC items stored.

If deemed more beneficial, USEC may conduct the media briefing(s) outside.

Continued ...

PURCHASE ORDER

tem	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension

The Vendor shall provide the following sets of keys, including applicable security code(s), for the use of the Corporation, whether the activation is declared real, drill, excercise or surveillance, for the noted respective access points. The sets of keys shall be securely retained by the Corporation for the duration of the lease (i.e., Contract), and shall be returned upon the completion of the lease.

(1) Main Building: Four (4) keys (retained by selected JPIC personnel, and Plant Shift Superintendent)

(2) Storage Areas [i.e., Closet (Upper Level)]: Four (4) keys

EFFECTIVE DATE OF LEASE, LEASE PERIOD, AND CONSIDERATION

The lease shall be in effect upon signature of acceptance by the Vendor. The lease period shall be for one (1) year for a total of $2,500.00, The lease payment shall be in accordance with the terms set forth in the Purchase Order upon receipt of the invoice.

OPTION TO EXTEND LEASE

The Corporation may unilaterally extend the term of this lease (i.e., Contract), with the approval of the Vendor, and such approval shall not be unreasonably withheld (e.g., health, safety and welfare of the Vendor personnel, congregation and students) by written notice to the Vendor, delivered on or before the completion of the date set forth herein, for a period of one (1) year after the completion date set forth herein ("Option Period"). If the Corporation exercises this option, the completion date shall be deemed to be the very last day of the Option Period, and all terms of this Contract, including this option, shall apply during the Option Period, but in no event shall the Contract be extended beyond January 31, 2004.

PRIMARY CORPORATION/VENDOR CONTACTS

The following personnel, or their respective designated alternates, shall be the primary contacts relevant to the execution of the Contract.

Corporation:

Contract Coordination:	Marty Redden	Tel. 740-897-6122
Procurement/Financial:	Jesse Lacefield	Tel. 740-897-3758
Installations/Modifications:	Cheryl Bauer	Tel. 740-897-2193

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tinued ...

PURCHASE ORDER

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tem	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension
	Vendor: [Tel. 740-289-4030] Contract Coordination: Reverend Rick Struckel Financial/Invoicing: Tommie Schrader Installations/Modifications: Dan Schilling On Call Representative: Jeff Forbes (Cell [redacted] On Call Alternate: Joe Assisi (Cell #[redacted]					

Continued ...

PURCHASE ORDER

tem	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension
2	Costs associated with improvements, additions, and modifications relevant to premises or real property; and, reimbursable services for on site assistance.	13-MAR-01	2,500.00	EACH	1.00	2,500.00

VENDOR FURNISHED REIMBURSABLE ITEMS
The Corporation shall reimburse the Vendor for the following improvements, additions, or modifications which shall become the property of the Vendor upon termination of the Contract; and, personnel or services assistance during JPIC operations:

Improvements, Additions, Modifications:
1. Installation (labor, material) of two (2) television antennas, with rotors; and roof, siding or tower bracing as determined by Vendor; and, cable run to Media Monitoring area
2. Installation (labor, material) of radio antennas

Personnel, Services Assistance:
3. In the event of a JPIC operation, whether declared real, drill, excercise or surveillance, a Vendor's on call representative shall be available for assistance to the JPIC staff. The Corporation shall pay the Vendor a rate in the amount of $100.00/day for these services.
4. In the event of an actual emergency, or an event other than a scheduled drill, the Corporation shall pay the Vendor a rate in the amount of of $300.00/day, for the duration of the JPIC operation, to cover miscellaneous costs and utilities use.
5. If required, the Vendor shall be capable of providing meals to the JPIC staff for a cost in addition to the terms of the Contract.

PARTICIPATORY RESPONSIBILITIES, COORDINATION OF RELOCATION EFFORT
The following are the agreed upon participatory responsibilities for the JPIC relocation effort:

USEC Responsibilities:
1. Since the Word Alive Fellowship/Miracle City Academy (WAF/MCA) will not be using the JPIC telephone lines, SCOCA and USEC agree that it would be best not to use the SCOCA telephone switch.

ontinued ...

PURCHASE ORDER

tem	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension

USEC shall arrange, and pay, for the transfer of the JPIC telephone lines from the Vern Riffe Vocational School (VRVS) to the WAF/MCA facility.

USEC will continue to buy the service for the needed twenty-six (26) telephone lines from Verizon, the local common carrier. The telephone devices used today will work with the new equipment.

2. USEC shall provide the telephones, wall jacks, wire punchdown blocks, fiber terminations cabinet (to be located at WAF/MCA), etc. needed for the JPIC telephone and data connections.

USEC and their subcontractor staff shall supply all material, equipment and installation effort that is not provided by Verizon for the JPIC voice and data connections.

3. USEC shall provide the following necessary material, equipment and effort to SCOCA for use in the relocation effort:

Fast Ethernet Switching Hub	Fiber Optic Cable
Fast Ethernet Media Converters	Fiber Termination and Equipment
Fiber Connecting Cables	USEC/Horizon Assistance

NOTE: Upon transfer of the above to, and acceptance by, SCOCA, the material and equipment shall no longer be the property of USEC. Therefore, USEC shall not be responsible for the maintenance, repair, or any operational conditions, of the material and equipment.

SCOCA Responsibilities:

1. SCOCA shall provide Internet access for the JPIC workstaions, firewall protedtion and Internet addresses. The level of service will be the same as that offered to other SCOCA clients.

The staff and students of the Cisco Academy, which is a part of the VRVS, shall install wiring inside the WAF/MCA facility, that provide Internet data access, under the direction of SCOCA.

2. Reference: USEC, Item 3 (i.e., acceptance of material, equipment)

Continued ...

PURCHASE ORDER

Purchase Order	Revison	Page
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tem	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price	Extension
	NOTE: SCOCA shall be acting on behalf of WAF/MCA in all relocation efforts; no contractual agreement shall, nor be presumed, to exist between USEC and SCOCA in performance of the relocation efforts by all participnts. WAF/MCA Responsibilities: 1. WAF/MCA shall arrange for the burial of both the fiber optic cable and the telephone cable to be installed for the JPIC operations. 2. Reference: USEC Items 2 (i.e., location), 3 (i.e., NOTE) NOTE: It is agreed that neither material, nor equipment, is being installed for which USEC would be responsible for a reimbursment of shared cost relevant to the telephone and internet systems. COORDINATION OF RELOCATION EFFORT The following documents (attachments) are provided for the graphic clarity of the scope of work responsibilities, and for scheduling and coordination of the relocation effort by all participants. 1. Graphic Schematic 2. JPIC Relocation Schedule (dated February 16, 2001) ACCEPTANCE OF CONTRACT The Contractor hereby accepts this Contract as set forth herein. Acceptance of this Contract is expressly limited to the terms and conditions of the contract. By: [signature] (Signature) Name and Title: RICHARD STRUCKEL PRES. WORD ALIVE Fellowship INC. Date:______________________					

G-58

Lockheed Marietta Utility Services, Inc.
Portsmouth Gaseous Diffusion Plant
P.O. Box 628 MS 5000 Piketon, Ohio 45661
Telephone: (740) 897-2193

LOCKHEED MARTIN

April 6, 1999
POEF-170-99-065

Multiple Addressees

Transition to United States Enrichment Corporation

This letter is to inform you that on May 18, 1999, the United States Enrichment Corporation (USEC) will be the sole manager of the Portsmouth Gaseous Diffusion Plant's production facilities. As mutual aid agreements, letters of assistance, and memoranda of understanding are due for renewal, references to "Lockheed Martin Utility Services, Inc." will be changed to "USEC."

If you have any questions about this transition, please call me at 740-897-6122.

Sincerely,

Marty Redden, Manager
Emergency Management Group

Chief Harold Cooper
Pebble Township Fire Department
18794 State Route 772
Waverly, Ohio 45690

Chief Greg Holdren
Benton Township Fire Department
13553 State Route 124
Idaho, Ohio 45661

Chief Jack Harris
East Jackson Township Fire Department
16553 State Route 335
Beaver, Ohio 45613

Chief Carl Hines
Scioto Township Fire Department
2000 Wakefield Mound Road
Piketon, Ohio 45661

Chief Charlie Brunner
Stockdale Fire Department
Stockdale, Ohio 45683

Chief Randy Armbruster
Waverly Fire Department
316 Elizabeth Lane
Waverly, Ohio 45690

Chief Roger Overly
Beaver Fire Department
5540 State Route 335
Beaver, Ohio 45613

Mr. Jerry Wessel, Chief
Pike County Firefighter's Association
612 Giers Road
Waverly, Ohio 45690

Chief Bryan McDowell
Camp Creek Fire Department
101 Hungry Hollow Road
Lucasville, Ohio 45648

Chief Chuck Valentine
Waverly Squad #2
P. O. Box 364
Waverly, Ohio 45690

Chief Jason Fields
Beaver Squad #3
86 West Road
Beaver, Ohio 45613

Chief Beth Trent
Piketon Squad #4
219 Forsythe Street
Piketon, Ohio 45661

Chief Todd Brannan
Elm Grove Squad #5
9220 State Route 772
Piketon, Ohio 45661

Chief Darla Cooper
Pebble Township Squad #7
18794 State Route 772
Waverly, Ohio 45690

Chief Marion Massie
Benton Township Squad #8
545 Walls Road
Waverly, Ohio 45690

Chief Charles Leeth
Piketon Fire Department
Piketon, Ohio 45661

Chief Jeff Beekman
Elm Grove Fire Department
8349 State Route 772
Piketon, Ohio 45661

Lt. Robert Woodford
Ohio State Highway Patrol
Post 73
Lucasville, Ohio 45648

Sheriff Marty Donini
Scioto County Court House
602 Seventh Street
Portsmouth, Ohio 45662

Ms. Tracy Casto
Director of Emergency Services
Pike Community Hospital
100 Dawn Lane
Waverly, Ohio 45690

Chief Dick Lusk
Pike Forest
334 Lapperell
Latham, Ohio 45646

Ms. Peggy Landrum
Director of Emergency Services
Adena Regional Medical Center
272 Hospital Road
Chillicothe, Ohio 45601

Commander Thomas M. Zerba
Department of the Army
71st Ordnance Detachment
52nd Ordnance Group
Dayton, Ohio 45433

Mr. Donald Simonton, Director
Pike Cty. Emergency Management Agency
2577 Alma Omega Road
Waverly, Ohio 45690

Mr. Larry Travis
Pike County LEPC/Sheriff
108 East Second Street
Waverly, Ohio 45690

Ms. Kim Carver, Director
Scioto County EMA
Court House - Room #2
Portsmouth, Ohio 45662

Mr. Theodore Jackson
Special Agent in Charge
550 Main Street, Room 9023
Cincinnati, Ohio 45202

Mr. Rod Crane
President, Med Flight
2827 West Dublin Granville Road
Columbus, Ohio 43235

Mr. Roger McAllister
Scioto County LEPC
P. O. Box 45
Rarden, Ohio 45671

Mr. James Williams
Deputy Director Ohio EMA
2855 West Dublin Granville Road
Columbus, Ohio 43235

Dr. William Aurich
Director of Emergency Services
Southern Ohio Medical Center
1805 27th Street
Portsmouth, Ohio 45662

Date: March 31, 1998

To Whom It May Concern:

Pike County Firefighters Association has voted and given Lockheed Martin Utility Services permission to use the County repeater to communicate with the fire departments of the County.

154.010 Transmitter

154.430 Receiver

131.8 Channel Guard

Howard L Smith

President

Jerry L Worrell

Witness

AGREEMENT FOR MUTUAL AID FOR ADDITIONAL FIRE PROTECTION

Pursuant to the provisions of paragraphs 1, 4 and 5 of Section 505.44 and 717.02 of the Revised Code of Ohio, this agreement is entered into this 20th day of May, 1998 by and between the:

COPY

Waverly Fire Department
Beaver Fire Department
Piketon-Seal Township Volunteer Fire Department
Elm Grove Fire Department
Camp Creek Volunteer Fire Department
Pebble Township Volunteer Fire Department
Benton Township Volunteer Fire Department
Jackson Township Fire Department
Scioto Township Volunteer Fire Department
Stockdale Fire Department
Brush Creek Township Volunteer Fire Department
Lockheed Martin Utility Services, Inc., Fire Department

All political subdivisions under the laws of Ohio, Witnesseth:

THAT, WHEREAS, the respective political subdivisions hereinabove named have certain fire fighting equipment and firemen to operate the same, but which, in emergencies, may be inadequate to afford full and complete protection to said respective subdivisions, their contractual obligees, the inhabitants thereof, and their respective properties, and,

WHEREAS, it is desirable that in case of such emergency said respective parties hereto may have the additional fire protection which may be afforded by the fire fighting equipment and personnel of others of the respective parties hereto as may the, in the opinion of the Chief of Officer in charge, of such other party or parties hereto as are called upon, IT IS HEREBY MUTUALLY AGREED BY AND BETWEEN SAID PARTIES AS FOLLOWS, to wit:

1. That for the purpose of affording additional protection to themselves, their contractual obligees, and their inhabitants, the parties hereto do hereby mutually agree to interchange the service of fire departments, and the use of fire apparatus and other emergency equipment, and to that end, it is hereby agreed that they, or any one or more of them shall assist the party hereto primarily responsible and responding to any fire alarm or fire call or other emergency from any Chief or Officer in charge, or other duly constituted public official which is a party of this agreement, with its or their fire fighting equipment or other emergency vehicles and firemen, and shall render like services in combating fires or other emergencies as it renders to itself and its own inhabitants, provided, however, that at no time shall the party or parties upon which the request is made, be required to respond with more than one piece of fire apparatus upon first alarm, and provided further, that in no case shall the party hereto or any of its inhabitants, or contractual obligees, for failure to answer any fire call or other emergency, or for lack of speed in answering any such call, or for any inadequacy of equipment, negligent operation of equipment, failure to extinguish any fire, or for any cause whatsoever growing out of such use of said fire or other equipment and firemen; nor shall the party hereto, which such use of said fire or other equipment and firemen; nor shall the party hereto, which issued such call be liable in any manner or event for damages or loss of equipment or personnel suffered by the party or parties answering such call.

2. That for the purpose of this agreement, mutual aid is hereby defined as "The aid rendered by or between subdivisions of government owned and operated fire fighting or other emergency equipment and shall not include primary response to any alarm of fire or other emergency made by a subdivision legally responsible for such primary response."

3. This contract shall be made and remain in full force and effect for perpetuity, provided, however, that any party may terminate this contract upon thirty days notice, in writing, to all other

COPY

parties.

IN WITNESS WHEREOF, said respective political subdivisions parties hereto, have hereunto caused this agreement to be executed as provided by ordinance or resolution duly adopted for that purpose, a copy of which is hereto appended, this 20th day of May, 19 98 .

City of Waverly, Ohio
Mayor [illegible]
Chief [illegible]

Village or Township of Piketon-Seal Township Volunteer Fire Department
Trustee Harry Rider
Chief Donald L. Smith

Village of Beaver, Ohio 45613
Mayor ~~Trustee~~ Paul D. Matthews
Chief Roger Overly

Elm Grove Fire Department
Trustee John H. Smith
Chief Jeff Bellomo

Township of Camp Creek
Trustee NOT APPLICABLE
Chief Byron McDonal

Township of Pebble Township
Trustee Clarence Lawson
Chief Harold E. Cooper

Township of Benton Township
Trustee Douglas Drury
Chief Chief Greg Holdren.

Township of Jackson Township
Trustee James L. Clagg
Chief Deborah Rose

Township of Scioto Township
Trustee Teddy L. West
Chief Carl Hines

Stockdale Fire Department
BOARD MEMBER ~~Trustee~~ Donald K. Shook
Chief Charles M. Brunner

Township of Brush Creek
Trustee NOT APPLICABLE
Chief NOT APPLICABLE

Lockheed Martin Utility Services, Inc.
for GBM General Manager [illegible] 12/14/97
Legal John S Olsen 5/20/98 *see amendment

cc: Records Management/EM - RC (17-A58-E50)

Please insert in Volume 4, Appendix I-1,
Closure Plan for the X-326 Storage Unit

(clean copy)

SUBMISSION DATE: February 21, 2000

TABLE OF CONTENTS

Section H

Personnel Training

H-1 Outline of Training [3745-54-16]

Hazardous waste personnel are trained to respond effectively to emergencies, as deemed appropriate to the job descriptions; to perform their duties in a way that ensures the facility's compliance with the requirements of the hazardous waste facility standards chapters; and to implement the contingency plan. Hazardous waste personnel are familiarized with emergency procedures, emergency equipment, and emergency systems. At a minimum, all personnel at the site are trained to recognize emergencies and respond effectively using the methods listed in Section G-3. Training is completed within six months of employment or assignment to a position that may involve contact with hazardous materials and/or wastes. After completion of initial training, personnel are required to complete refresher training at varying intervals, such as annual or biennial, depending on the type of training. Training consists of classroom instruction, on-the-job training, and required reading materials.

H-1A Job Title/Job Description [3745-54-16]

The job title and written job description for each position at the facility related to hazardous waste management and the name of each employee filling the positions related to hazardous waste management are maintained at the site.

H-1B Training Content, Frequency and Technique [3745-54-16]

The training program consists of classroom training, on-the-job training, and required reading materials. The content of the training program for hazardous waste personnel is comprised of hazardous waste management procedures, contingency plan implementation, emergency procedures, emergency equipment, and emergency systems, including, where applicable, procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment; key parameters for automatic waste feed cut-off systems; communications and alarm systems; response to fire or explosions; response to groundwater contamination incidents; and shutdown of operations. Training to meet actual job tasks is accomplished through on-the-job training. The on-the-job training program is conducted by direct supervision or by qualified instructors. This training includes operational and job safety requirements specific to the actual job task. Refresher training is completed on an annual or biennial basis, depending on the type of training. On-the-job training is conducted as needed.

H-1C Training Director [3745-54-16]

The program is administered by the direct supervisors of hazardous waste personnel, or their designees, who are trained in hazardous waste management procedures. An annual review of the initial training is conducted by the direct supervisors of hazardous waste personnel to ensure that all hazardous waste personnel have completed the necessary training.

H-1D Relevance of Training to Job Position [3745-54-16]

The training requirements are tailored to individual job positions and are demonstrated by the completion of the on-the-job training program. Training requirements are reviewed annually, and the initial, refresher, and on-the-job training curricula are revised as necessary.

H-1E Training for Emergency Response [3745-54-16]

The training program is designed to ensure that hazardous waste personnel handle hazardous wastes safely, respond properly to emergency situations, and implement the contingency plan. The program trains hazardous waste personnel to maintain compliance under both normal operating conditions and emergency conditions.

H-2 Implementation of Training Programs [3745-54-16]

All hazardous waste personnel receive training, relevant to the position for which they are employed, by qualified personnel consistent with the regulatory requirements. Additionally, hazardous waste personnel receive OSHA mandated 24-hour training as described in 29 CFR 1910.120. All hazardous waste personnel must complete initial training within six months from their date of assignment to a hazardous waste job. No employee assigned to perform a hazardous waste job will work unsupervised prior to completion of the training program.

H-3 Record keeping [3745-54-16]

Individual training records, the job titles for each position, job descriptions, names of employees, and a written description of the type and amount of both introductory and continuing training that will be given to each person filling a position related to hazardous waste management are maintained at the site. The training records for current hazardous waste personnel are maintained until closure of the facility and the training records for former hazardous waste employees are kept for at least three years from the date the employee last worked at the facility.

SUBMISSION DATE: February 21, 2000

Appendix H-1
Job Descriptions

Position Title:

Waste Handler

Basic Function of Position:

Handle hazardous and toxic materials and waste.

Major Environmental Duties and Responsibilities:

1. Coordinate the receipt of waste and other materials into the proper storage area.
2. Verify that the waste is properly identified and labeled.
3. Operate automatic equipment.
4. Operate other tools and equipment necessary to the handlers primary duties.
5. Perform arithmetic calculations relative to the above processes.
6. Assist in training of lesser qualified persons.

Formal Education Required:

High school diploma or equivalent. Must have valid State drivers' license and be able to operate standard and automatic transmission vehicle.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

Position Title:

Uranium Materials Handler

Basic Function of Position:

Responsible for storing and handling of hazardous material.

Major Environmental Duties and Responsibilities:

1. Proper spacing storage of materials including weighing, tagging, and description of contents.

2. Operates various equipment for transporting cylinders and drums.

3. Performs inspection of containers before movement and must know proper procedure to follow in case of cylinder rupture.

Formal Education Required:

High school diploma or equivalent. Must have valid State drivers' license and be able to operate automatic and standard transmission vehicles.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

SUBMISSION DATE: February 21, 2000

Position Title:

Supervisor

Basic Function of Position:

Schedule and assign daily work, and instruct operators in performing hazardous waste handling/storage and treatment/disposal project activities.

Responsible for planning, organizing and implementing the operational activities.

Major Environmental Duties and Responsibilities:

1. Utilize approved operating equipment and systems while maintaining compliance with applicable regulatory requirements.

2. Maintain operating logs, review data sheets, coordinate maintenance and service groups, process repair orders, and issue special permits.

3. Conduct safety meetings and special training sessions, provide service as a local emergency director (LED) in handling operational emergencies, and apply company policy, rules and regulations.

4. Manage all regulated wastes for the Portsmouth Site in accordance with all applicable State and Federal regulations and orders, policies, procedures, plans, and contracts.

5. Responsible for receipt of all wastes into storage, operating all waste storage units in a safe and efficient manner.

Formal Education Required:

A high school diploma or equivalency and four to six years experience in a production area or waste management activity.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

SUBMISSION DATE: February 21, 2000

Position Title:

Manager, Waste Management

Basic Function of Position:

Management of Portsmouth Bechtel Jacobs Company LLC Waste Management activities

Major Environmental Duties and Responsibilities:

Provide compliance and quality support; waste treatment and disposal; waste operations; and waste identification services for the Portsmouth Gaseous Diffusion Plant (PORTS) in compliance with all applicable regulations, orders, laws, etc., in a manner that protects the environment and safety and health of the public and site personnel.

Formal Education Required:

Requires a B.S. degree with extensive experience in plant operations and processes including several years in related activities such as waste management and/or environmental activities. Requires effective supervisory and managerial skills, as well as thorough knowledge of related policies, procedures, and regulations.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

SUBMISSION DATE: February 21, 2000

Position Title:

Radiological Control Technician

Basic Function of Position:

Perform duties including personnel monitoring, sample collection for radiation evaluation, data recording and tabulation and related arithmetic calculations.

Major Environmental Duties and Responsibilities:

Perform monitoring and sampling as directed. Distributes, collects, tests and reads direct reading personnel monitoring instruments such as dosimeters. Collects sample for radioactive evaluation. Monitors radiation and radioactive contamination and compares readings with exposure control standards, and material clearance requirements.

Records measurements made with radiation detection instruments. Tabulates, performs arithmetic calculations and reports results of routine measurements.

Analysis of data limited to comparison of routine readings with pre-determined standards, and reporting those which exceed operational levels.

Formal Education Required:

9 to 12 quarter hours of related technical subjects in post-high school curriculum; or through a combination of equivalent education and experience. Must learn to use radiation monitoring instruments and to distinguish and understand characteristics of radiation.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

Position Title:

Environmental Samplers

Basic Function of Position:

Conduct routine sampling, monitoring and data collection activities in support of waste management activities.

Major Environmental Duties and Responsibilities:

Sets up sampling instrumentation and follows clearly defined, detailed plans to collect waste samples and data. Handles and/or assures proper calibration, maintenance and working order of sensitive equipment. Documents findings, compiles data and keeps appropriate records.

Formal Education Required:

Requires either training and/or experience equivalent to an associate degree in biological or environmental science field; or related technical subjects; and one to two years of related progressive experience; or through a combination of equivalent education and experience.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

SUBMISSION DATE: February 21, 2000

Position Title:

Engineer

Basic Function of Position:

Performs tasks requiring application of learned techniques, standardized procedures, and criteria to accomplish technical solutions. Exercises judgement on details of work and in making preliminary selections and adaptations of engineering alternatives. Supervises and screens assignments for unusual or difficult problems and may select techniques or procedures to be applied to more complex tasks.

Major Environmental Duties and Responsibilities:

Performs duties that are designed to provide development and familiarization with engineering staff, procedures, practices, standards, and programs. Applies standard practices and techniques in specific problems within own field of engineering; tabulates and correlates data; runs experiments and performs calculations; and performs engineering analysis work. May prepare bills of material, cost estimates, and specifications for procurement of materials and equipment or construction work.

Participates in safety and Quality Assurance activities by serving on teams, special projects, training sessions, special assignments, etc.

Prepares a variety of written summaries, informal reports and progress reports on work. May coordinate the work of technical support employee who assist in accomplishment of the primary task.

Formal Education Required:

Possess a basic understanding of engineering principles, theory and concepts and analytical techniques normally acquired at the B.S. level of an accredited engineering school. Exceptions may be given to other incumbents who have an appropriate combination of relevant education and experience with demonstrated capability over several years to perform professional engineering assignments.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

SUBMISSION DATE: February 21, 2000

Position Title:

Waste Operations Coordinator

Basic Function of Position:

Schedule and assign daily work, and instruct supervisors concerning the coordination of handling/storage and treatment/disposal project activities.

Major Environmental Duties and Responsibilities:

Establish project priorities and resolve scheduling conflicts; interface with regulator/auditors/inspectors concerning compliance issues; communicate with organizations providing service functions.

Formal Education Required:

A high school diploma or equivalency and four to six years of experience in a production area or waste management activity, or an equivalent combination of education and experience are required.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

SUBMISSION DATE: February 21, 2000

Position Title:

Facility Compliance Inspector

Basic Function of Position:

Performs routine compliance field inspections that include requirements under RCRA. Provides all functions necessary to schedule and complete the necessary documentation for the facility compliance inspection program.

Major Environmental Duties and Responsibilities:

Perform weekly inspections of RCRA waste storage facilities.

Formal Education Required:

Familiarity with DOE systems, rules, regulations, and Code of Federal regulations. See required RCRA training requirements below.

Required RCRA Training:

RCRA for Hazardous Waste Generators (Annual)
24-Hour Hazwoper (Initial)
8-Hour HAZWOPER Refresher (Annual)
Hazard Communication (Biennial)
Emergency Preparedness (Annual)
Fire Protection (Annual)

Identification and Justification for Changes to DOE-PORTS RCRA Part B Permit (04-57-0680)

Section H - Personnel Training

Page[1]	Section	Modification	Justification	OAC[1]	Class[1]
		Changes Made Since Draft Submittal			
--	Table of Contents	Changed to reflect document modifications	Administrative and informational changes	B.1	1
H-1	H-1, Outline of Training	Changed personnel response to emergency requirements to a reference to Section G-3	Informational change	B.1	1
H-1	H-1A, Job Title/Job Description	Uneccessary text pertaining to job descriptions eliminated. Added text to reflect that job descriptions are contained in Appendix H-1.	Information incorporated into Appendix H-1, Job Descriptions	B.1	1
H-4 - H-12	Appendix H-1, Job Descriptions	This appendix re-incorporated into document	Required by RCRA Part B Permit Completeness checklist	B.1	1
		Draft Submittal Changes			
--	Table of Contents	Changed to reflect document modifications	Administrative and informational changes; Correction of typographical errors	B.1, B.2	1
H-1	H-1, Outline of Training	Editorial changes and updated information	Administrative and informational changes	B.1, B.2	1
H-1	H-1A, Job Titles/Job Descriptions	Editorial changes and updated information	Administrative and informational changes	B.1, B.2	1
H-2	H-1B, Training Content, Frequency and Technique	Editorial changes and updated information	Administrative and informational changes	B.1, B.2, C.5.b	1
H-4	H-1.2.1, Job Qualification	Deleted	Information incorporated into section H-1B, Training Content, Frequency and Technique	B.1, B.2	1
H-4	H-1C, Training Director	Editorial changes and updated information	Administrative and informational changes	B.1, B.2	1

Identification and Justification for Changes to DOE-PORTS RCRA Part B Permit (04-57-0680)

Page[1]	Section	Modification	Justification	OAC[1]	Class[1]
H-5	H-1D, Relevance of Training to Job Position	Editorial changes	Administrative changes	B.1, B.2	1
H-5	H-1E, Training for Emergency Response	Editorial changes and updated information	Administrative and informational changes	B.1, B.2	1
H-6	H-2, Implementation of Training Programs	Editorial changes	Administrative changes	B.1, B.2	1
H-6	H-2A, Implementation	Editorial changes	Administrative changes	B.1, B.2	1
H-7	H-2B, Recordkeeping	Editorial changes and updated information	Administrative and informational changes	B.1, B.2	1
H-8	Appendix H-1	Deleted	Information not required	B.1	1

[1] For changes made since the draft submittal, page designates the page of the permit renewal application submitted February 21, 2000. For draft submittal changes, page designates the page of the line-out copy of the permit application previously submitted to Ohio EPA.

OAC and Class (classification) refer to the OAC Appendix reference (OAC 3745-50-51) for the classification of the permit modification.

SUBMISSION DATE: February 21, 2000

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Appendices

SUBMISSION DATE: February 21, 2000

Section I

Closure Plan, Post-Closure Plan, and Financial Requirements

I-1 Closure Plans [3745-50-44(A)(13)]

Closure plans for X-326 and X-7725 container storage units currently operating under the Resource Conservation and Recovery Act Part B Permit #04-57-0680, EPA ID No. OH7890008983, are included as Appendices I-1 and I-2, respectively. The director will be notified in writing at least forty-five days prior to the date on which final closure is expected to begin. Amendments to the closure plans may be submitted in a written permit change request anytime prior to the notification of closure of the container storage units. Section I-1a to I-1e of the RCRA Part B Permit Application Checklist are addressed in the respective closure plans in Appendix I.

I-2 Post-Closure Plans [3745-55-18]

Not applicable

I-3 to I-8

The information required by these sections of the RCRA Part B Checklist are addressed in the respective closure plans in Appendix I.

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Section J

Record keeping

J-1 Use of a Manifest System [3745-54-71, 3745-54-72 and 3745-54-76]

Currently PORTS does not accept any hazardous waste for treatment, storage or disposal from offsite locations. PORTS will accept treatment residues (i.e. incinerator ash) returned as a result of treatment of its wastes. PORTS will maintain a manifest tracking system for each incoming shipment. The following information will be verified before PORTS signs the manifest accepting the residue for storage:

- Information on the Hazardous Waste Manifest
- The quantity or type of hazardous waste designated on the manifest or shipping paper (i.e. for bulk waste, variations greater than 10% and for batch waste, any variation in the count)
- Evidence of tampering
- LDR Notification
- Treatment Standards
- Laboratory analysis confirming the LDR determination
- Back-up laboratory analysis that confirms any other hazardous designations attached to the waste (i.e. because of incineration, heavy metals may have concentrated in the waste, thus causing the residue to become a TCLP characteristic waste).

If a significant discrepancy is found (i.e. number of drums does not match the manifest, weight of bulk waste is not within 10% of weight on manifest, evidence of tampering is present, etc.), PORTS will contact appropriate personnel to resolve the discrepancy (i.e. by telephone). If the discrepancy is not resolved in 15 days, PORTS will immediately submit to the director a letter describing the discrepancy and all attempts to resolve it, as well as a copy of the manifest and/or shipping paper at issue.

J-2 Operating Record [3745-54-73 and 3745-54-74]

PORTS maintains a written operating record for all hazardous waste management activities at the permitted storage units, as required by 3745-54-73 and Appendix I, Record Keeping Instructions. The operating record contains the information, as it becomes available, regarding the description, quantity, location and characteristics of the hazardous waste generated at the facility; records and results of waste analyses; the methods and dates of storage; the information required in the notice (except the manifest number) required by 3745-59-07; inspection logs; ground water monitoring data; summary reports and details of all incidents that require implementing the contingency plan; certification of a program to reduce the volume and toxicity of hazardous waste generated; and reports to regulatory agencies.

The information in the operating record will be maintained until closure of the hazardous wastes units at which time the information will be archived. The records and results of inspections required by 3745-54-15 (D) will be kept for at least three years from the date of inspection. The information in the operating record is available for inspection at all reasonable times.

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Section K

Other Federal Laws

K-1 Other Federal Laws [3745-50-44]

The PORTS site is subject to all applicable federal laws.

Clean Water Act

An NPDES permit (0IO00000), has been obtained for the site from the Ohio EPA. No discharges are associated with the container storage units.

Clean Air Act

All activities conducted in the container storage units are evaluated for compliance with the Clean Air Act on a case by case basis, and necessary permits are obtained from the Ohio EPA. No emissions are associated with the routine operations of the container storage units.

Fish and Wildlife Coordination Act

No body of water will be diverted or modified as a result of the operation of the container storage units, and therefore, the Fish and Wildlife Coordination Act is not applicable to this permit application.

Wild and Scenic Rivers Act

There will be no adverse effects on any wild or scenic rivers as a result of the operation of the container storage units, and therefore the Wild and Scenic Rivers Act is not applicable to this permit application.

Endangered Species Act

No endangered species will be jeopardized or have its critical habitat adversely affected as a result of the operation of the container storage units, and therefore, the Endangered Species Act is not applicable to this permit application.

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The National Historic Preservation Act of 1966

There will be no effect on any properties eligible to be listed on the National Register of Historic Places as a result of the operation of the container storage units, and therefore the National Historic Preservation Act of 1966 is not applicable to this permit application.

The Coastal Zone Management Act

The PORTS facility is not in a coastal zone, and therefore the Coastal Zone Management Act is not applicable to this permit application.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

PORTS is subject to NESHAP regulations (40 CFR 61). The U.S. EPA Region V has oversight responsibility and permitting authority for NESHAP regulations. All NESHAP related reports are sent to U.S. EPA Region V. NESHAP regulations on radionuclides limit doses to any member of the general public to 25 millirem (mrem) to the whole body and 75 mrem to the critical organ. Doses are calculated annually based on actual measured radionuclide concentrations.

Superfund Amendments and Reauthorization Act

Compliance with the Superfund Amendments and Reauthorization Act (SARA) regulations is coordinated with other environmental regulations, including RCRA, CAA, and CWA. Material inventories, material usage, waste inventories, waste treatment, waste shipments, and chemical releases are tracked for emergency release notifications and inclusion in the annual SARA reports submitted to the U.S. EPA and Ohio EPA. Environmental control specialists review the aforementioned data for technical accuracy.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires evaluation of environmental impacts for proposed activities at federal facilities and for activities funded with federal dollars. All activities conducted in the container storage units are evaluated in accordance with NEPA.

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Section L

Organic Air Emissions

L-1 Specific Part B Information Requirements for Process Vents

The Portsmouth Gaseous Diffusion Plant (PORTS) does not have any equipment of the listed types that are used to recycle, recover, or reprocess hazardous wastes; therefore, PORTS does not have any equipment which is subject to Subpart AA.

L-2 Specific Part B Information Requirements for Equipment

PORTS does not have any equipment of the listed types which contains or contacts hazardous wastes containing at least 10 percent organics; therefore, PORTS does not have any equipment which is subject to Subpart BB.

L-3 Specific Part B Requirements for Facilities that Store Hazardous Waste in Containers

The container storage units are facilities used solely for the management of radioactive mixed waste in accordance with the applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act; therefore, the units are not subject to Subpart CC requirements.

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Section M

Solid Waste Management Units

M-1 Solid Waste Management Units [3745-50-44]

Solid Waste Management Units (SWMUs) located within the PORTS facility boundaries are listed in Table M-1.

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Table M-1
Solid Waste Management Units

UNIT NUMBER	UNIT TITLE
X-231A	OIL BIODEGRADATION PLOT
X-231B	OIL BIODEGRADATION PLOT
X-701BP	NORTHEAST OIL BIODEGRADATION PLOT
X-614A	SEWAGE LIFT STATION
X-614B	SEWAGE LIFT STATION
X-614D	SEWAGE LIFT STATION
X-614P	SEWAGE LIFT STATION
X-615	ABANDONED SANITARY SEWAGE TREATMENT PLANT
X-616	EFFLUENT CONTROL FACILITY/FORMER CHROMIUM SLUDGE LAGOONS
X-617	pH ADJUSTMENT
X-622T	CARBON FILTRATION UNIT
X-622	SOUTH GROUNDWATER TREATMENT FACILITY
X-623	NORTH GROUNDWATER TREATMENT FACILITY
X-624	GROUNDWATER TREATMENT FACILITY
X-625	GROUNDWATER TREATMENT FACILITY
X-626	RECIRCULATING WATER PUMP HOUSE AND COOLING TOWER
X-630	COOLING TOWER BASIN
X-630-1 X-630-2 X-630-2	RECIRCULATING WATER PUMP HOUSE, COOLING TOWER, AND ACID HANDLING STATION
X-633	RECIRCULATING WATER PUMP HOUSE AND COOLING TOWER
X-701E	NEUTRALIZATION FACILITY
X-230G	RCW SYSTEM
X-6614E	SEWAGE LIFT STATION
X-6614J	SEWAGE LIFT STATION
X-6619	SEWAGE TREATMENT FACILITY
	SANITARY SEWER SYSTEM

Table M-1 (continued)

UNIT NUMBER	UNIT TITLE
	STORM SEWER SYSTEM
X-103	AUXILIARY OFFICE BUILDING
X-104A	INDOOR FIRING RANGE
X-114A	FIRING RANGE
X-120	OLD TRAINING FACILITY SITE
X-326	PROCESS BUILDING
X-330	PROCESS BUILDING
X-333	PROCESS BUILDING
X-343	FEED VAPORIZATION AND SAMPLING FACILITY
X-344C X-344D	HF STORAGE FACILITY AND HF NEUTRALIZATION PIT
X-600 X-600A	COAL FIRED STEAM PLANT AND COAL STORAGE YARD
X-700	CHEMICAL CLEANING FACILITY (SOILS ONLY)
X-700 X-705	PROCESS WASTE LINE SOILS
X-700T	TCE/TCA OUTSIDE STORAGE TANK (SOILS ONLY)
X-701C	NEUTRALIZATION PIT (SOILS ONLY)
X-705	DECONTAMINATION BUILDING (SOILS ONLY)
X-705A X-705B	RADIOACTIVE WASTE INCINERATION /CONTAMINATED BURNABLES STORAGE LOT (SOILS ONLY)
X-710	TECHNICAL SERVICES BUILDING AND NEUTRALIZATION PIT (SOILS ONLY)
X-720	MAINTENANCE BUILDING (SOILS ONLY)
X-736	CONSTRUCTION SPOILS AREA
X-744Y X-744G	WASTE STORAGE YARD AND BULK STORAGE BUILDING (SOILS ONLY)
X-744W	SURPLUS AND SALVAGE WAREHOUSE
X-749	CONTAMINATED MATERIALS DISPOSAL FACILITY (SOILS ONLY)
X-751	MOBILE EQUIPMENT GARAGE

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Table M-1 (continued)

UNIT NUMBER	UNIT TITLE
X-760	PILOT INVESTIGATION BUILDING AND NEUTRALIZATION PIT (SOILS ONLY)
X-770	MECHANICAL TESTING FACILITY
X-3001	PROCESS BUILDING
X-3346	FEED AND WITHDRAWAL FACILITY
	BARREN AREA
	OLD NORTHWEST FIRING RANGE (RUBY HOLLOW)
	RAILROAD SPUR YARD STORAGE AREA
	TRANSFORMER CLEANING STORAGE PAD
X-530A X-530B X-530C X-530D X-530E X-530F X-530G	SWITCHYARD, SWITCH HOUSE, TEST AND REPAIR BUILDING, OIL HOUSE, VALVE HOUSE, AND GCEP OIL PUMPING STATION
X-533A X-533B X-533C X-533D X-533E X-533F X-533H	SWITCHYARD, SWITCH HOUSE, TEST AND REPAIR BUILDING, OIL HOUSE AND ASSOCIATED FRENCH DRAINS, VALVE HOUSES, AND GAS RECLAIMING CART GARAGE
X-747G	NORTHEAST CONTAMINATED MATERIAL STORAGE YARD (SOILS ONLY)
X-747F	MISCELLANEOUS MATERIALS STORAGE YARD
X-747H	NORTHWEST SURPLUS AND SCRAP YARD
	DON MARQUIS SUBSTATION (DRAINAGE COLLECTION PONDS) AND CONSTRUCTION SPOILS
X-326	CONTAINER STORAGE UNIT (L-CAGE)
X-326	PCB STORAGE UNIT
X-330	PCB STORAGE AREA
X-333	PCB STORAGE AREA
X-705B	CONTAMINATED BURNABLES STORAGE LOT
X-741	OIL DRUM STORAGE FACILITY

Table M-1 (continued)

UNIT NUMBER	UNIT TITLE
X-744G	UNRESTRICTED CONTAINER STORAGE UNIT
X-744G	RESTRICTED CONTAINER STORAGE UNIT
X-744P X-744N X-744Q	WAREHOUSES AND ASSOCIATED OLD CONSTRUCTION HEADQUARTERS
X-744S X-744T X-744U	WAREHOUSES
X-744RW	RETRIEVABLE WASTE STORAGE AREA
X-744Y	RAD WASTE STORAGE YARD
X-745B	ENRICHMENT PROCESS GAS YARD
X-745C	WEST CYLINDER STORAGE YARD
X-745E	NORTHWEST INTERNATIONAL PROCESS GAS YARD
X-745F	NORTH PROCESS GAS STOCKPILE YARD
X-752	HAZARDOUS WASTE STORAGE FACILITY
XT-847	WAREHOUSE
X-7725 X-7745R BFS FACILITY	RECYCLE & ASSEMBLY BUILDING, RECYCLE & ASSEMBLY STORAGE YARD, AND INITIAL CONSTRUCTION BULK FUEL STORAGE AREA (BULK FUEL STORAGE SWMU)
X-7725	CONTAINER STORAGE UNIT
X-7725	NON-HAZARDOUS WASTE CONTAINER STORAGE UNIT
X-7725R	STORAGE YARD
X-334	TRANSFORMER STORAGE AND CLEANING BUILDING
X-342A X-342B X-342C	FEED VAPORIZATION AND FLUORINE GENERATION BUILDING, FLUORINE STORAGE BUILDING, AND WASTE HF NEUTRALIZATION PIT
X-344 X-344A	URANIUM HEXAFLUORIDE SAMPLING FACILITY AND SETTLING TANK
X-344D	HF NEUTRALIZATION PIT
X-700CT	CHEMICAL AND PETROLEUM STORAGE CONTAINMENT TANKS

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Table M-1 (continued)

UNIT NUMBER	UNIT TITLE
X-701C	NEUTRALIZATION PIT
X-701E	NEUTRALIZATION FACILITY
X-710	RADIOACTIVE WASTE PIT
X-720	NEUTRALIZATION PIT AND SOILS
X-740	WASTE OIL HANDLING FACILITY
X-750	MOBILE EQUIPMENT MAINTENANCE SHOP, FUEL STATION, AND WASTE OIL TANK
X-751	MOBILE EQUIPMENT GARAGE
X-760	NEUTRALIZATION PIT
	CHEMICAL AND PETROLEUM CONTAINMENT BASINS (EAST OF X-533A) AND EMERGENCY CONTAINMENT TANKS
	GCEP UNDERGROUND STORAGE TANKS
X-230J3	RUNOFF POND
X-230J3	WEST ENVIRONMENTAL SAMPLING BUILDING AND INTERMITTENT CONTAINMENT BASIN
X-230J5	WEST HOLDING POND AND OIL SEPARATION BASIN
X-230J6	NORTHEAST HOLDING POND, MONITORING STATION, AND SECONDARY OIL COLLECTION BASIN
X-230J7	EAST HOLDING POND AND OIL SEPARATION BASIN
X-230K	SOUTH HOLDING POND
X-611A	NORTH, MIDDLE, AND SOUTH LIME SLUDGE LAGOONS
X-611B	LIME SLUDGE LAGOON
X-621	COAL PILE RUNOFF TREATMENT FACILITY
X-701B	HOLDING POND, CONTAINMENT PONDS AND RETENTION SOILS
X-2230M	SOUTHWEST HOLDING POND, WASTE PILE AND X-617 pH ADJUSTMENT UNIT
X-2230N	WEST HOLDING POND NO. 2
X-734 X-734A X-734B	OLD SANITARY LANDFILL, CONSTRUCTION SPOILS LANDFILL, AND OLD CONSTRUCTION SPOILS LANDFILL
X-735	RCRA LANDFILL

Table M-1 (continued)

UNIT NUMBER	UNIT TITLE
X-735 AND X-735A	SANITARY LANDFILL AND LANDFILL UTILITY BUILDING
X-749 NORTH	HAZARDOUS WASTE LANDFILL
X-749 SOUTH	SOLID WASTE LANDFILL
X-749A	CLASSIFIED MATERIALS DISPOSAL UNIT
X-749B	PETER KIEWIT LANDFILL
	BIG RUN CREEK
	EAST DRAINAGE DITCH
	LITTLE BEAVER CREEK
	NORTH DRAINAGE DITCH, X-230L NORTH HOLDING POND, AND UNNAMED CONSTRUCTION FILL AREA
	NORTHEAST DRAINAGE DITCH
	WEST DRAINAGE DITCH
	5-UNIT GROUNDWATER PLUME
	7-UNIT GROUNDWATER AREA
	X-701B AREA GROUNDWATER AREA
	X-740 WASTE OIL HANDLING FACILITY (GROUNDWATER ONLY)
	X-749/X-120 GROUNDWATER PLUME

Section N

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

U.S. Department of Energy
Owner and Operator

B Greggs ______________________ 2/17/2000 ______________

Site Manager | Date Signed

Bechtel Jacobs Company LLC
Co-Operator

BY: ______________________ 2/17/00 ______________

Manager of Projects | Date Signed

"The Department of Energy has signed this application for the permitted facility as "owner and operator" and Bechtel Jacobs Company LLC has signed as co-operator. The Department has determined that dual signatures best reflect the actual apportionment of responsibility under which the Department's RCRA responsibilities are for policy, programmatic, funding and scheduling decisions, as well as general oversight; and, the contractor's RCRA responsibilities for day-to-day operations, (in accordance with general directions given by DOE as part of its general oversight responsibility), including but not limited to, the following responsibilities: waste analysis and handling, monitoring, record keeping, reporting, and contingency planning. For purposes of the certification required by OAC 3745-50-42(D) the DOE and Bechtel Jacobs Company representatives certify, to the best of their knowledge and belief, the truth, accuracy and completeness of the application for their respective areas of responsibility."

BECHTEL JACOBS COMPANY LLC

RCRA PART B PERMIT

FIGURE B-2
SITE MAP

Science Applications International Corporation Columbus, Ohio

DATE: 10/06/98

X-326
SCIOTO AVE
5th ST
2nd ST
6th ST
7th ST
9th ST
10th ST
HEWES ST.
JEFFERSON AVE
PATROL ROAD "B"
PERIMETER ROAD
SOUTH ACCESS ROAD
3 EXTRACTION WELLS
FIRE STATION X-1007
PARKING
COAL PILE YARD
SPILLWAY
HOLDING POND
SOUTH HOLDING POND WASTE PILE
HELICOPTER PAD
PETER KIEWIT LANDFILL
COLLECTION TRENCH
BIG RUN CREEK
PRIVATE WELL
X-626-1
X-626-2
X-231B
X-231A
X-751
X-744K
X-710
X-760
X-770
X-600
X-749A
X-2207A
XT-847
XT-801
XT-800
ROADS
BUILDINGS
RAILROADS
PONDS
CREEKS / STREAMS
FENCES
TOPOGRAPHIC CONTOUR LINES C.I. = 5 FT.
UTILITY LINES
SANITARY SEWERS
STORM SEWERS
RECIRCULATING COOLING WATER
HIGH PRESSURE FIRE LINES
LOW PRESSURE FIRE LINES
LIMITED ACCESS GATE
RCRA STORAGE UNITS
150 0 150 300
FEET
WIND ROSE (10 - M LEVEL)
LOCATION MAP
N
True North
BECHTEL JACOBS COMPANY LLC
RCRA PART B PERMIT
FIGURE B-3
SOUTHEAST QUADRANT
SAIC
Science Applications International Corporation
Columbus, Ohio
DATE: 10/06/98

NAME: U:\PORTS\GIS\PLATE4.DWG DATE: DEC 16, 1997 TIME: 2:28 PM PCP: U:\PORTS\GIS\PLATE1.PCP

LOCATION MAP

ROADS

BUILDINGS

RAILROADS

PONDS

CREEKS / STREAMS

FENCES

700 TOPOGRAPHIC CONTOUR LINES C.I. = 5 FT.

RCRA STORAGE UNITS

UTILITY LINES

SANITARY SEWERS

STORM SEWERS

RECIRCULATING COOLING WATER

HIGH PRESSURE FIRE LINES

LOW PRESSURE FIRE LINES

LIMITED ACCESS GATE

150 0 150 300

FEET

WIND ROSE (10 – M LEVEL)

m/s 0 2.0 4.0 6.0 8.0 10.0

mph 4.5 8.9 13.4 17.9 22.4

N True North

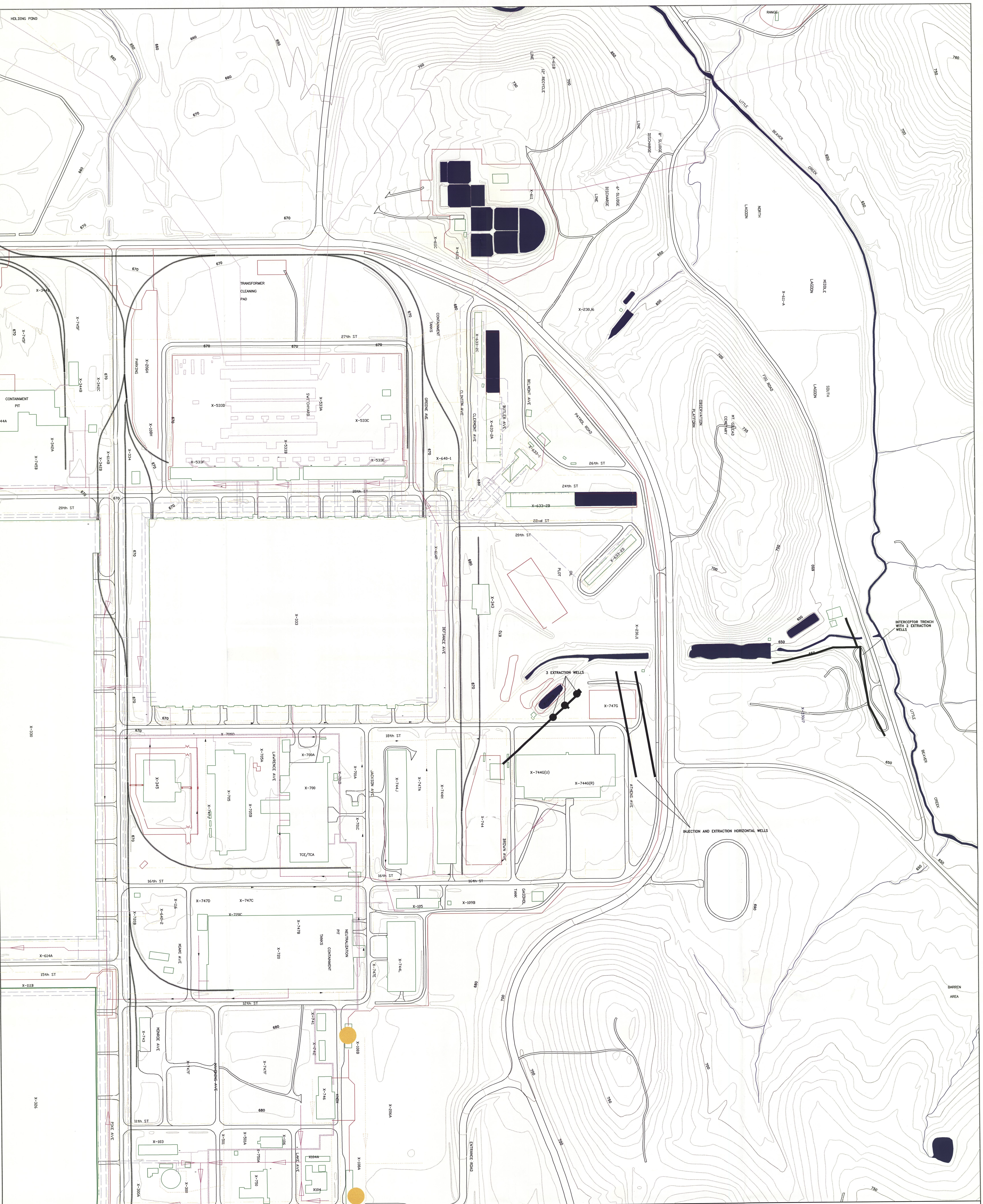
BECHTEL JACOBS COMPANY LLC

RCRA PART B PERMIT

FIGURE B–4
SOUTHWEST QUADRANT

SAIC Science Applications International Corporation Columbus, Ohio

DATE: 10/06/98



LOCATION MAP

ROADS	UTILITY LINES
BUILDINGS	SANITARY SEWERS
RAILROADS	STORM SEWERS
PONDS	RECIRCULATING COOLING WATER
CREEKS / STREAMS	HIGH PRESSURE FIRE LINES
FENCES	LOW PRESSURE FIRE LINES
700 TOPOGRAPHIC CONTOUR LINES C.I. = 5 FT.	

LIMITED ACCESS GATE

150 0 150 300
FEET

WIND ROSE (10 – M LEVEL)

True North

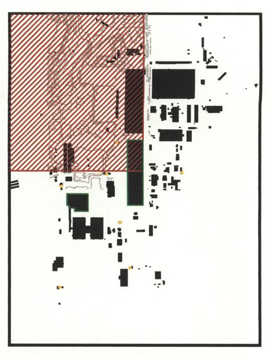
BECHTEL JACOBS COMPANY LLC

RCRA PART B PERMIT

FIGURE B–5
NORTHEAST QUADRANT

SAIC Science Applications International Corporation Columbus, Ohio

DATE: 10/06/98



LOCATION MAP

ROADS

BUILDINGS

RAILROADS

PONDS

CREEKS / STREAMS

FENCES

700 TOPOGRAPHIC CONTOUR LINES C.I. = 5 FT.

UTILITY LINES

SANITARY SEWERS

STORM SEWERS

RECIRCULATING COOLING WATER

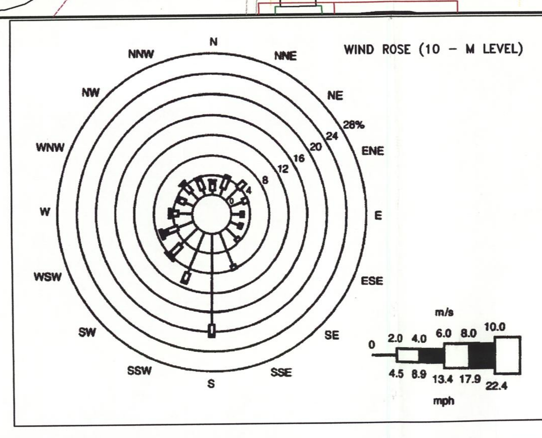
HIGH PRESSURE FIRE LINES

LOW PRESSURE FIRE LINES

LIMITED ACCESS GATE

150 0 150 300

FEET



N
True North

BECHTEL JACOBS COMPANY LLC

RCRA PART B PERMIT

FIGURE B-6
NORTHWEST QUADRANT

Science Applications International Corporation

Columbus, Ohio

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